

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

JVC

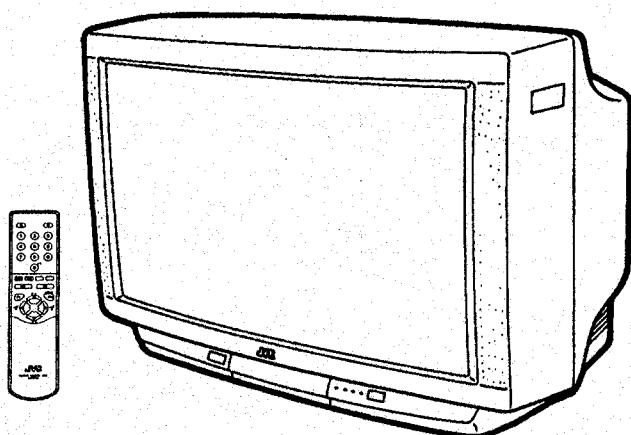
SERVICE MANUAL

COLOUR TELEVISION

**AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS**

BASIC CHASSIS

JF



CONTENTS

■ SPECIFICATIONS	2
★ OPERATING INSTRUCTIONS	1-1
■ SAFETY PRECAUTIONS	4
■ FEATURES	6
■ MAIN DIFFERENCE PARTS LIST	7
■ SPECIFIC SERVICE INSTRUCTIONS	8
■ SERVICE ADJUSTMENTS	13
★ STANDARD CIRCUIT DIAGRAM	2-1
■ PARTS LIST	33

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

SPECIFICATIONS

Item	Content	
	AV-28WT4EK / AV-28WT4EKS	AV-28WT4EN / AV-28WT4ENS
Dimensions (W x H x D)	716mm x 489mm x 496mm	
Mass	34.8kg	
TV RF System	CCIR (I)	CCIR (B/G)
Colour System	PAL / NTSC (Only in EXT mode)	PAL / SECAM / NTSC (Only in EXT mode)
Stereo System	NICAM	A2/NICAM
Teletext System	Fastext (United Kingdom system) WST (Standard system)	Fastext (United Kingdom system) TOP (German system) WST (Standard system)
Receiving Frequency		
VHF	—	47MHz ~ 470MHz
UHF	470MHz ~ 862MHz	470MHz ~ 862MHz
Intermediate Frequency		
VIF Carrier	39.5MHz (I)	38.9MHz (B/G)
SIF Carrier	33.5MHz (6.0MHz)	33.4MHz (5.5MHz)
Colour Sub Carrier Freq.		
PAL	4.43MHz	4.43MHz
SECAM	—	4.40625MHz / 4.25MHz
NTSC	3.58MHz / 4.43MHz	3.58MHz / 4.43MHz
Power Input	AC 220V~240V, 50Hz	
Power Consumption	140W (Max) / 110W (Avg), 110W/h (ITALY)	
Picture Tube	Visible size : 66cm, Measured diagonally	
High Voltage	31.0kV +1kV -1.5kV (at zero beam current)	
Speaker	φ10cm round (8Ω) × 2	
Audio Output	5W + 5W	
EXT-1/EXT-2(Input/Output)	21-pin Euro connector(SCART socket)	
EXT3 (Input) Video	1Vp-p 75Ω (RCA pin jack)	
Audio(L/R)	500mVrms (-4dBs), High Impedance (RCA pin jack)	
S / Video	Y : 1Vp-p POSITIVE (Negative sync Provided, when terminated with 75Ω) C : 0.286Vp-p (Burst signal, when terminated with 75Ω)	
Aerial Input Term	75Ω unbalanced, Coaxial	
Headphone jack	Stereo mini jack (φ3.5mm)	
Remote Control Unit	RM-C794 (AAA / R03 dry battery × 2)	RM-C795 (AAA / R03 dry battery × 2)

Design & specifications are subject to change without notice.

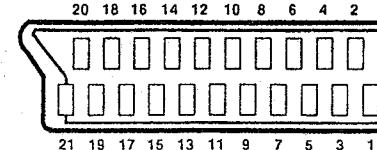
AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

■ 21-pin Euro connector (SCART socket) : EXT-1 / EXT-2

(P-P= Peak to Peak, S-W= Sync tip to white peak, B-W= Blanking to white peak)

Pin No.	Signal Designation	Matching Value	EXT-1	EXT-2
1	AUDIO R output	500mVrms(Nominal), Low impedance	○ (TV OUT)	○ (TV/LINE OUT)
2	AUDIO R input	500mVrms(Nominal), High impedance	○	○
3	AUDIO L output	500mVrms(Nominal), Low impedance	○ (TV OUT)	○ (TV/LINE OUT)
4	AUDIO GND	—	○	○
5	GND (B)	—	○	○
6	AUDIO L input	500mVrms(Nominal), High impedance	○	○
7	B input	700mV _{B-W} , 75Ω	○	NC
8	FUNCTON SW (SLOW SW)	Low : 0-3V, High : 8-12V, High impedance	○	NC
9	GND (G)	—	○	○
10	SCL3	—	NC	○
11	G input	700mV _{B-W} , 75Ω	○	NC
12	SDA3	—	NC	○
13	GND (R)	—	○	○
14	GND (Y _s)	—	○	NC
15	R / C input	R : 700mV _{B-W} , 75Ω C : 300mV _{P-P} , 75Ω	○ (R/C)	○ (only C)
16	Y _s input	Low : 0 - 0.4, High : 1 - 3V, 75Ω	○	NC
17	GND(VIDEO output)	—	○	○
18	GND(VIDEO input)	—	○	○
19	VIDEO output	1V _{P-P} (Negative going sync), 75Ω	○ (TV)	○ (TV/LINE OUT)
20	VIDEO / Y input	1V _{P-P} (Negative going sync), 75Ω	○	○
21	COMMON GND	—	○	○

[Pin assignment]



SEFETY PRECAUTIONS AV-28WT4EK / AV-28WT4EKS

- The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessary be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which

have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may cause shock, fire, or other hazards.

- The leads in the products are routed and dressed with ties, clamps, tubing's, barriers and the like to be separated from live parts, high temperature parts, moving parts and / or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

WARNING

- The equipment has been designed and manufactured to meet international safety standards.
- It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
- Repairs must be made in accordance with the relevant safety standards.
- It is essential that safety critical components are replaced by approved parts.
- If mains voltage selector is provided, check setting for local voltage.

SAFETY PRECAUTIONS AV-28WT4EN / AV-28WT4ENS

- The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the parts list in Service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
- Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (L) side GND, the ISOLATED(NEUTRAL) : (+) side GND and EARTH : (-) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.
If above note will not be kept, a fuse or any parts will be broken.
- If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
- The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
- Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10k Ω 2W resistor to the anode button.
- When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

- Isolation Check**
(Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.
(... Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

This method of test requires a test equipment not generally found in the service trade.

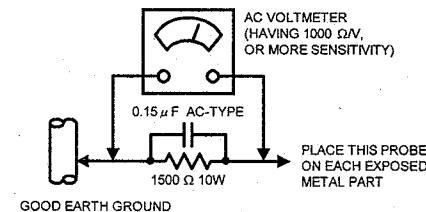
(2) Leakage Current Check

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.). However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

• Alternate Check Method

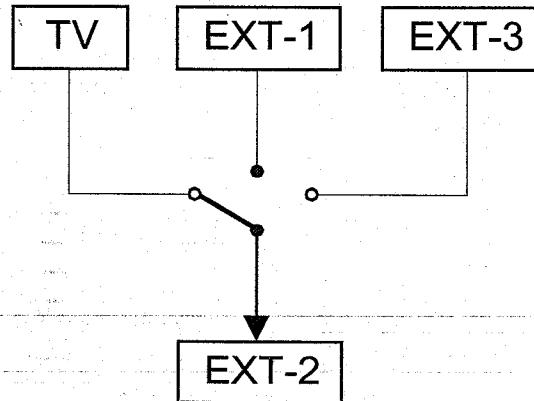
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500 Ω 10W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the "AC voltmeter". Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



FEATURES

- By preference, users can select the picture size from REGULAR, PANORAMIC, FULL, 14:9 ZOOM, 16:9 ZOOM, 16:9 ZOOM SUB TITLE modes. When the TV unit received WSS picture signal, the picture can be changed to 16:9 ZOOM mode automatically.
- The TELETEXT SYSTEM has a built-in FASTEXT, TOP(Only AV-28WT4EN / AV-28WT4ENS) and WST system.
- Because this TV unit corresponds to multiplex broadcast, users can enjoy music programs and sporting events with live realism. In addition, BILINGUAL programs can be heard in their original language.



MAIN DIFFERENCE PARTS LIST

△ Part Name	Model Name	AV-28WT4EK	AV-28WT4EKS	AV-28WT4EN	AV-28WT4ENS
MAIN PWB	SJF-1923A-U2	↔	SJF-1023A-U2	↔	
IF MODULE PWB	SJF0F921A-U2	↔	SJF0F021A-U2	↔	
△ POWER CORD	AEEMP003-185A	↔	AEEMP001-185	↔	
FRONT CABINET ASSY	CM12677-B0U-E	CM12677-B0V-E	CM12677-B0W-E	CM12677-B0X-E	
DOOR (SERVICE)	CM22898-015-E	CM22898-017-E	CM22898-015-E	CM22898-017-E	
SPEAKER NET (×2)	CM36226-C0A-H	CM36226-00B-H	CM36226-C0A-H	CM36226-00B-H	
JVC MARK	CM48125-001	CM48125-004	CM48125-001	CM48125-004	
POWER KNOB (SERVICE)	CM36225-010-E	CM36225-011-E	CM36225-010-E	CM36225-011-E	
△ RATING LABEL	LC20091-005A-U	LC20091-006A-U	LC20092-011A-U LC20093-011A-U	LC20092-012A-U LC20093-012A-U	
△ INST BOOK	LCT0406-001A-U	↔	LCT0407-001A-U LCT0408-001A-U	↔	
EURO LABEL	AEM1039-033-E	AEM1039-034-E	AEM1039-035-E	AEM1039-036-E	
REMOCON UNIT	RM-C794-1E	↔	RM-C795-1E	↔	

SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE

REMOVING THE REAR COVER

1. Unplug the power cord.
2. Remove the 13 screws marked "A" as shown in the Fig. 1.
3. Withdraw the rear cover toward you.

REMOVING THE CHASSIS

- After removing the rear cover.
1. Remove the screw marked "(B)" on the S/VIDEO terminal of FRONT CABINET as shown in the Fig. 1.
 2. Slightly raise the both sides of the chassis by hand and remove the two claws under the both sides of the chassis from the front cabinet.
 3. Withdraw the chassis backward.
(If necessary, take off the wire clamp, connectors etc.)

REMOVING THE AV TERMINAL BOARD

- After removing the rear cover.
1. Remove the 3 screws marked "(C)" as shown in the Fig. 1.
 2. While raising the claw marked "(D)", remove the top of the AV TERMINAL BOARD slightly in the direction of arrow "(E)" as shown in Fig. 2.

REMOVING THE SPEAKER BOX

- After removing the rear cover.
1. Remove the 2 screws marked "(F)" as shown in Fig. 1.
 2. Follow the same steps when removing the other hand speaker box.

NOTE : When removing the screws marked "(F)" of the speaker box, remove the lower side screw first, and then remove the upper screw.

CHECKING THE PW BOARD

- To check the back side of the PW Board.
- 1) Pull out the chassis. (Refer to REMOVING THE CHASSIS).
 - 2) Erect the chassis vertically so that you can easily check the back side of the PW Board.

[CAUTION]

- When erecting the chassis, be careful so that there will be no contacting with other PW Board.
- Before turning on power, make sure that the wire connector is properly connected.
- When conducting a check with power supplied, be sure to confirm that the CRT EARTH WIRE (BRAIDED ASS' Y) is connected to the CRT SOCKET PW board.

WIRE CLAMPING AND CABLE TYING

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together. Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

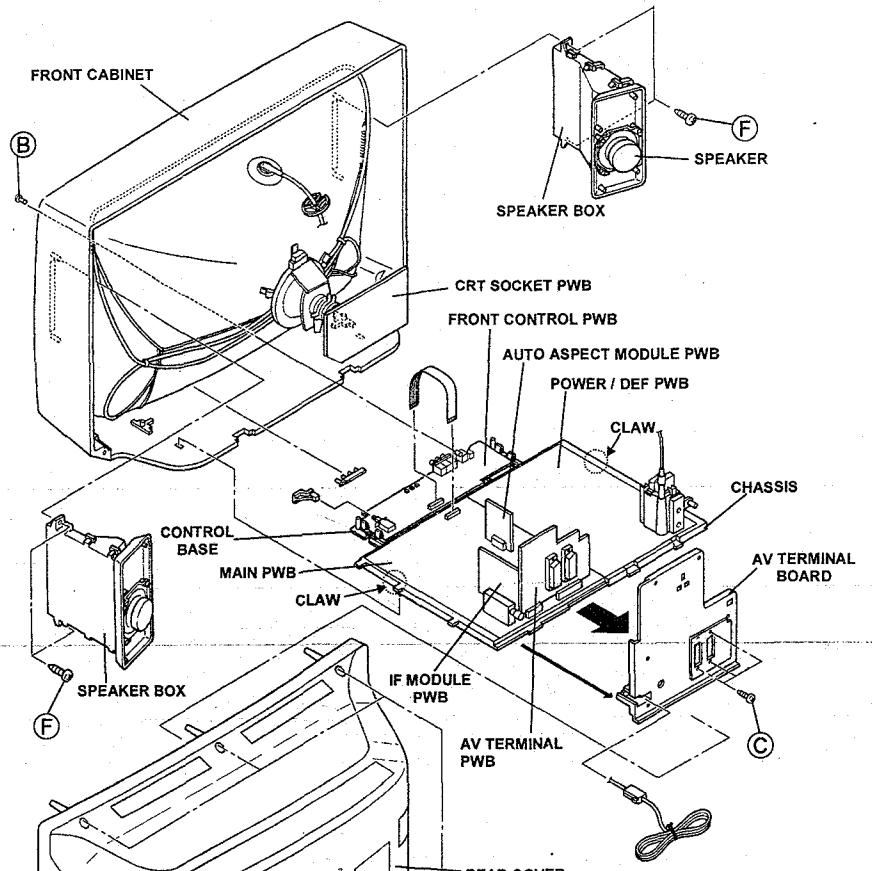


Fig. 1

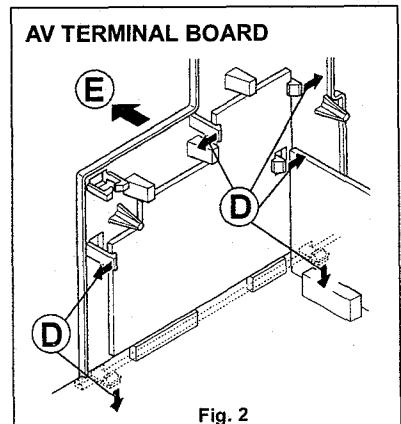


Fig. 2

AV-28WT4EK
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AV-28WT4EN
AV-28WT4ENS

REMOVING THE CRT

- Replacement of the CRT should be performed by 2 or more persons.
- After removing the cover, chassis etc.,
- 1. Putting the CRT change table on soft cloth, the CRT change table should also be covered with such soft cloth (shown in Fig.3).
- 2. While keeping the surface of CRT down, mount the TV set on the CRT change table balanced will as shown in Fig.4.
- 3. Remove 4 screws marked by arrows with a box type screw driver as shown in Fig.4.
- Since the cabinet will drop when screws have been removed, be sure to support the cabinet with hands.
- 4. After 4 screws have been removed, put the cabinet slowly on cloth (At this time, be carefully so as not to damage the front surface of the cabinet) shown in Fig.5.
- The CRT should be assembled according to the opposite sequence of its dismantling steps.
- * The CRT change table should preferably be smaller than the CRT surface, and its height be about 35cm.

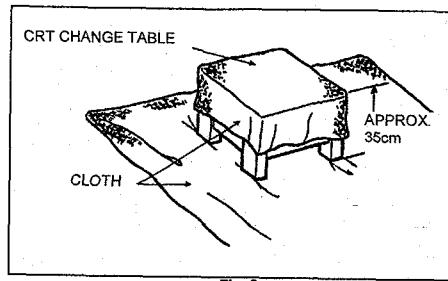


Fig. 3

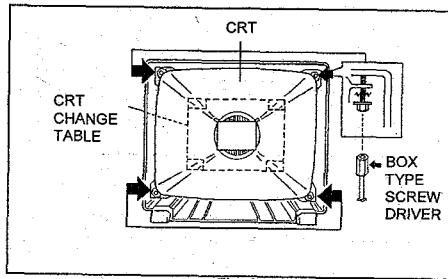


Fig. 4

COATING OF SILICON GREASE FOR ELECTRICAL INSULATION ON THE CRT ANODE CAP SECTION.

- Subsequent to replacement of the CRT and HV transformer or the anode cap, etc. by dismantling them, be sure to coat silicon grease for electrical insulation as shown in Fig.6.

Wipe around the anode button with clean and dry cloth. (Fig.6)
Coat silicon grease on the section around the anode button. At this time, take care so that any silicon greases dose not stick to the anode button. (Fig.7)

★ Silicon grease product No. KS - 650N

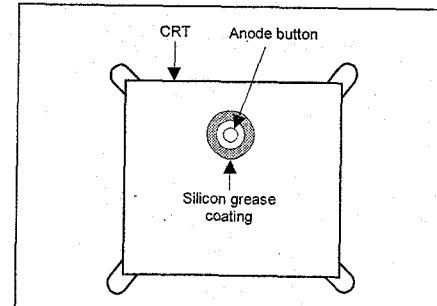


Fig. 6

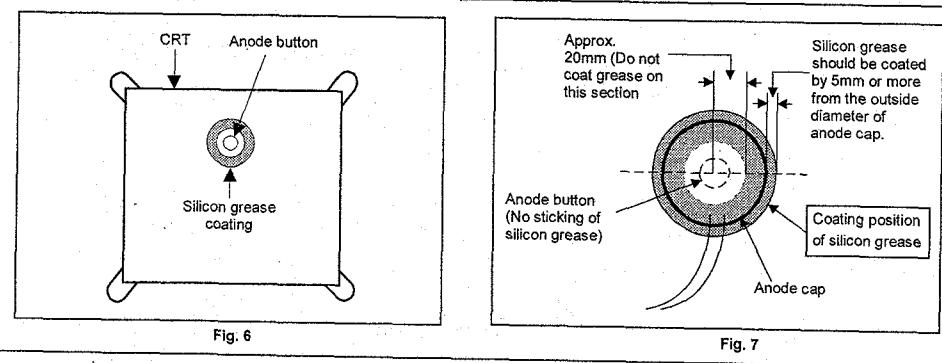


Fig. 7

AV-28WT4EK
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AV-28WT4ENS

REPLACEMENT OF MEMORY ICs

1. Memory ICs

This TV use memory ICs. In the memory ICs, there are memorized data for correctly operating the video and deflection circuits. When replacing memory ICs, be sure to use ICs written with the initial values of data.

2. Procedure for replacing memory ICs

PROCEDURE
(1) Power off Switch the power off and unplug the power cord from the outlet.
(2) Replace ICs. Be sure to use memory ICs written with the initial data values.
(3) Power on Plug the power cord into the outlet and switch the power on.
(4) Check and set SYSTEM CONSTANT SET: 1) Press the INFORMATION key and the MUTING key of the REMOTE CONTROL UNIT simultaneously. 2) The SERVICE MENU screen of Fig. 1 will be displayed. 3) While the SERVICE MENU is displayed, press the INFORMATION key and MUTING key simultaneously, and the SYSTEM CONSTANT SET screen of Fig. 2 will be displayed. 4) Check the setting values of the SYSTEM CONSTANT SET of Table 1. If the value is different, select the setting item with the FUNCTION UP/DOWN key, and set the correct value with the FUNCTION +/- key. 5) Press the MENU key to memorize the setting value. 6) Press the INFORMATION key twice, and return to the normal screen.
(5) Setting of receive channels Set the receive channel. For setting, refer to the OPERATING INSTRUCTIONS.
(6) User settings Check the user setting values of Table 2, and if setting value is different, set the correct value. For setting, refer to the OPERATING INSTRUCTIONS.
(7) Setting of SERVICE MENU Verify the setting items of the SERVICE MENU of Table 3, and reset where necessary. For setting, refer to the SERVICE ADJUSTMENTS.

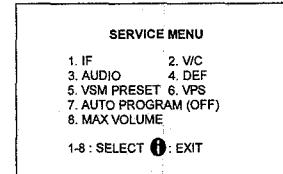


Fig.1

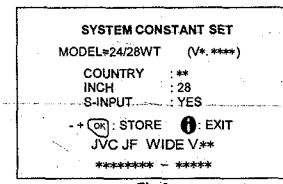


Fig.2

Names of key	key
INFORMATION	①
MUTING	✖
MENU	OK
FUNCTION UP/DOWN	▲▼
FUNCTION +/-	◀▶

SETTING VALUES OF SYSTEM CONSTANT SET (TABLE 1)

Setting item	Setting content	Setting value	
		AV-28WT4EK/AV-28WT4EKS	AV-28WT4EN/AV-28WT4ENS
COUNTRY	► EN ► EK	EK	EN
INCH	► 28 ► 32 ► 24	28	←
S-INPUT	► YES ► NO	YES	←

USER SETTING VALUES (TABLE 2)

Setting item	Setting value	Setting item	Setting value
PICTURE SETTING		EXT SOURCE	
TINT ECO MODE CLOUR SYSTEM 4:3 AUTO ASPECT	COOL OFF TV : Depend on Preset Channel EXT : AUTO PANORAMIC	EXT SETTING DUBBING	BLANK EXT-1 → EXT-2
SOUND SETTING		FEATURES	
STEREO / I II BASS TREBLE BALANCE HYPER SOUND	Depend on Preset Channel CENTER CENTER CENTER OFF	SLEEP TIMER BLUE BACK CHILD LOCK INSTALL LANGUAGE	OFF ON ID No.0000 ALL CHANNEL OFF ENGLISH

SERVICE MENU SETTING ITEMS (TABLE 3)

Setting item	Setting value	Setting item	Setting value
1. IF	1. VCO 2. DELAY POINT	4. DEF.	1. TRAPEZ 2. V-SHIFT 3. V-SIZE 4. H-CENT 5. H-SIZE 6. EW-PIN 7. V-S. CR 8. V-LIN 9. V-EDGE 10. EW-COR 11. ABL POINT 12. ABL GAIN
2. V/C	1. CUT OFF 2. DRIVE 3. BRIGHT 4. CONT. 5. COLOUR 6. TINT (Only NTSC) 7. BLACK OFFSET (Only SECAM) 8. SHARP 9. TEXT (RGB) CONT	5. VSM PRESET COOL NORMAL WARM	1. BRIGHT 2. CONT. 3. COLOUR 4. SHARP 5. TINT 6. R DRIVE 7. B DRIVE 8. BASS 9. TREBLE
3. AUDIO (Do not adjust)	1. CONC LIMIT 2. A2 ID THR	6. VPS (Do not adjust)	VPS PDC
		7. AUTO PROGRAM (Do not adjust)	ON / OFF
		8. MAX VOLUME	LEVEL

SERVICE ADJUSTMENTS

BEFORE STARTING SERVICE ADJUSTMENT

- There are 2 ways of adjusting this TV: One is with the REMOTE CONTROL UNIT and the other is the conventional method using adjustment parts and components.
- The setting (adjustment) using the REMOTE CONTROL UNIT is made on the basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
- Make sure that connection is correctly made to AC power source.
- Turn on the power of the TV and measuring instrument for warming up for at least 30 minutes before starting adjustment.
- If the receive or input signal is not specified, use the most appropriate signal for adjustment.
- Never touch parts (such as variable resistors, transformers and condensers) not shown in the adjustment items of this service adjustment.

PICTURE MODE (VSM)	COOL
SLEEP TIMER	OFF
BALANCE	CENTER
ECO	OFF
ZOOM	REGULAR
HYDER SOUND	OFF

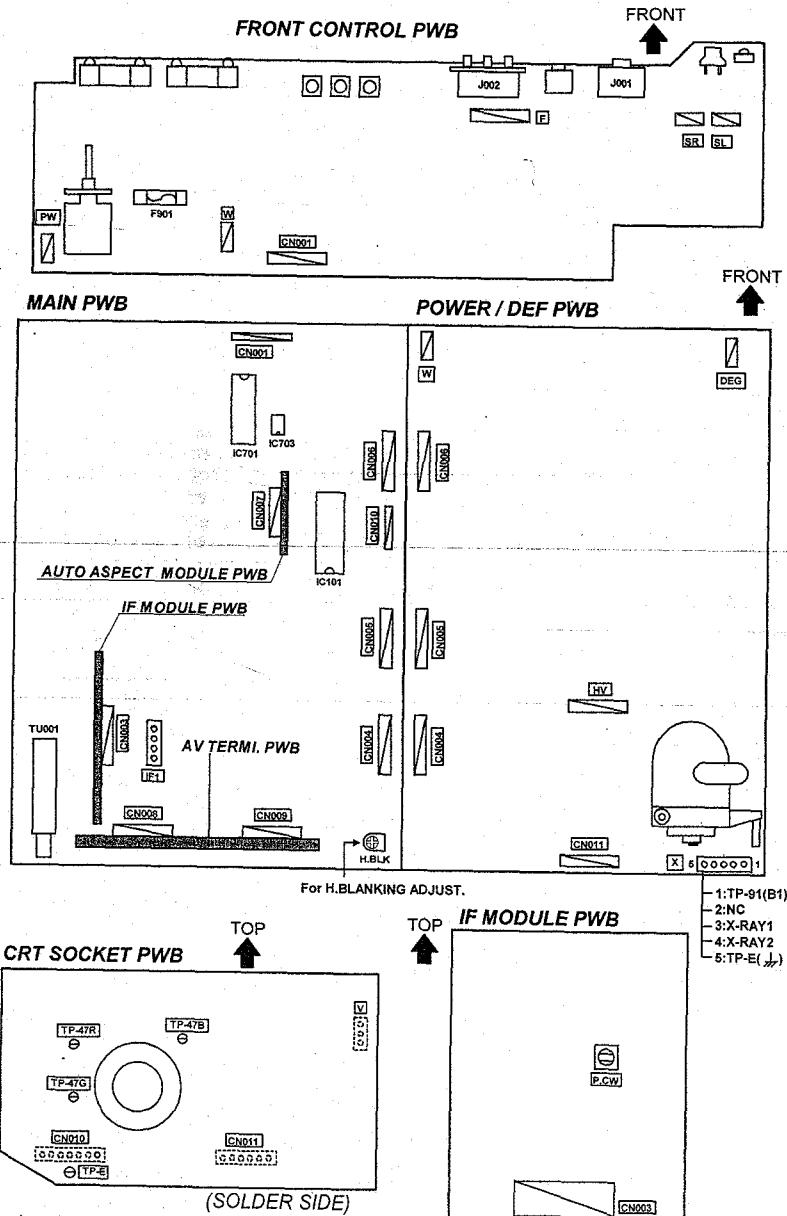
MEASURING INSTRUMENT AND FIXTURES

- DC voltmeter (or digital voltmeter)
- Oscilloscope
- Signal generator (Pattern generator) [PAL / SECAM (Only AV-28WT4EN / ENS) / NTSC]
- Remote control unit

ADJUSTMENT ITEMS

- B1 power supply check.
- Adjustment of FOCUS.
- IF circuit adjustment.
- VSM preset adjust setting.
- VIDEO / CHROMA circuit adjustment.
- DEFLECTION circuit adjustment.
- H.BLANKING adjustment.
- AUDIO circuit adjustment. (Do not adjust)
- SETTING OF MAX VOLUME.

ADJUSTMENT LOCATIONS



BASIC OPERATION SERVICE MENU

1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

2. SERVICE MENU ITEMS

With the SERVICE MENU, various settings (adjustments) can be made, and they are broadly classified in the following items of settings (adjustments):

- (1) 1.IF This mode adjusts the setting values of the IF circuit.
- (2) 2.V/C This mode adjusts the setting values of the VIDEO / CHROMA circuit.
- (3) 3.AUDIO This mode adjusts the setting values of the multiplicity SOUND circuit.
- (4) 4.DEF This mode adjusts the setting values of the DEFLECTION circuit for each aspect mode given below.

REGULAR	(50/60Hz)
PANORAMIC	(50/60Hz)
14:9 ZOOM	(50/60Hz)
16:9 ZOOM	(50/60Hz)
16:9 ZOOM SUB TITLE	(50/60Hz)
FULL	(50/60Hz)

- (5) 5.VSM PRSET This mode adjusts the initial setting values of COOL,NOMAL and WARM.
(VSM : Video Status Memory)
- (6) 6.VPS This mode shows the monitor of the VPS and PDC.(Do not adjust).
(VPS : Video Program System, PDC : Program Delivery Code)

- (7) 7.AUTO PROGRAM By turning the power switch on, you can get the state of AUTO PROGRAM. (Do not adjust)
- (8) 8.MAX VOLUME This mode adjusts the MAX VOLUME. (Do not adjust under normal condition)

3. BASIC OPERATION OF SERVICE MENU

(1) How to enter SERVICE MENU

Press the INFORMATION key and the MUTING key of the REMOTE CONTROL UNIT simultaneously, and the SERVICE MENU screen of Fig. 1 will be displayed.

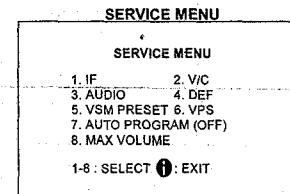


Fig.1

(2) Selection of SUB MENU SCREEN

Press one of keys 1~8 of the REMOTE CONTROL UNIT and select the SUB MENU SCREEN (See Fig. 3), form the SERVICE MENU.

SERVICE MENU → SUB MENU

- 1.IF
- 2. V/C
- 3. AUDIO
- 4. DEF
- 5. VSM PRESET
- 6. VPS
- 7. AUTO PROGRAM
- 8. MAX VOLUME

Names of key	key
INFORMATION	①
MUTING	✗
MENU	OK
FUNCTION UP/DOWN	▲▼
FUNCTION +/-	◀▶

Fig.2

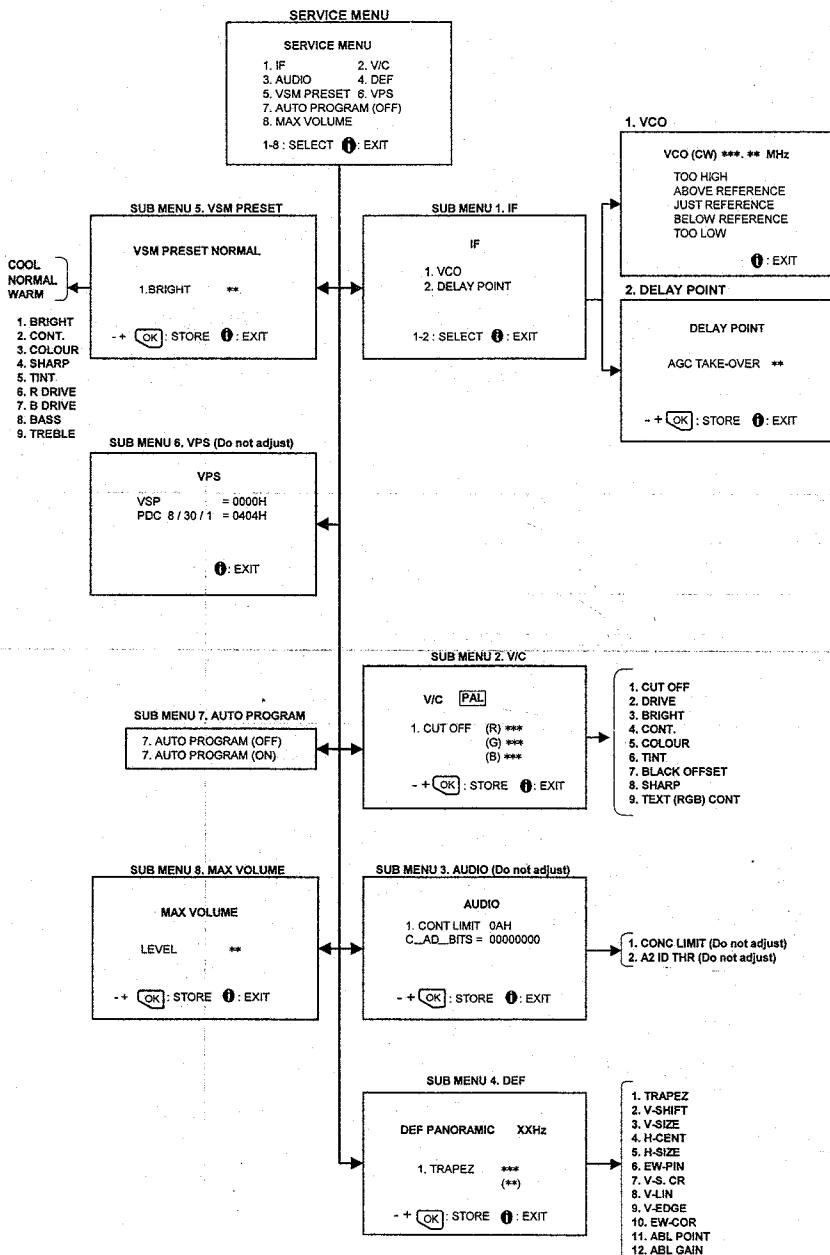


Fig. 3 SUB MENU SCREEN

(3) Method of Setting

1) Method of Setting 1.IF

[1. VCO]

① 1 Key Select 1.IF.

② 1 Key Select 1.VCO

③ The VCO (CW) screen will be displayed in yellow when the AFC voltage is at a certain level and in blue when it is at other levels.

④ INFORMATION Key As you press this twice, you will return to the SERVICE MENU.

[2. DELAY POINT]

① 1 Key Select 1.IF.

② 2 Key Select 2.DELAY POINT.

③ FUNCTION +/- Set (adjust) the setting values of the setting items.

④ MENU Key Memorize the set value.

(Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF keys - if you do, the values will not be stored in memory.)

⑤ INFORMATION Key When this is pressed twice, you will return to the SERVICE MENU.

2) Method of setting 2.V/C, 3.AUDIO, 4.DEF and 5.VSM PRESET.

① 2~5 Key Select one from 2. V/C, 3. AUDIO, 4. DEF and 5. VSM PRESET.

② FUNCTION UP/DOWN Key Select setting items.

③ FUNCTION +/- Set (adjust) the setting values of the setting items.

(Use the number keys of the REMOTE CONTROL UNIT for setting of WHITE BALANCE. For the setting, refer to each item concerned.)

④ MENU Key Memorize the setting value.

(Before storing the setting values in memory, do not press the CH, TV, POWER ON / OFF key - if you do, the values will not be stored in memory.)

⑤ INFORMATION Key Return to the SERVICE MENU screen.

3) Method of setting 6.VPS and 7.AUTO PROGRAM.

6.VPS This mode displayed monitor of VPS systems. (Do not adjust)

7.AUTO PROGRAM When the MAIN POWER is turned on with the state of AUTO PROGRAM ON, you get a mode that initializes every existing set value including language selection. Because this mode is set at the factory upon completion of the adjustment, you need not to use it for service.

4) Method of setting 8.MAX VOLUME (Do not adjust under normal condition)

① 8 Key Select 8. MAX VOLUME.

② FUNCTION +/- Key Set (adjust) the setting values of the setting items.

③ MENU Key Memorize the setting value.

④ INFORMATION Key Return to the SERVICE MENU screen.

(4) Release of SERVICE MENU

1) After completing the setting, return to the SERVICE MENU, then again press the INFORMATION key.

ADJUSTMENTS

B1 POWER SUPPLY CHECK

Item	Measuring instrument	Test point	Adjustment part	Description
Check of B1 Power Supply	Signal Generator DC voltmeter	TP-91(B1) TP-E(↓) [X connector on MAIN PWB]		<ol style="list-style-type: none"> Receive a whole black signal. Connect a DC voltmeter to TP-91(B1) and TP-E (↓). Make sure that the voltage is DC141.5±2.0V.

FOCUS ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of FOCUS	Signal generator		FOCUS VR [In HVT]	<ol style="list-style-type: none"> Receive a cross-hatch signal. While watching the screen, adjust the FOCUS VR to make the vertical and horizontal lines as fine and sharp as possible. Make sure that when the screen is darkened, the lines remain in good focus.

IF CIRCUIT ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description																																					
Adjustment of VCO	Remote control unit		P. CW TRANSF. [On IF MODULE PWB]	<ul style="list-style-type: none"> Under normal conditions, no adjustment is required. Select 1.IF from the SERVICE MENU. Press 1 key and select 1.VCO. Select a receivable broadcast channel with the CHANNEL key. Turn the core of P. CW TRANSF. until the colour of the characters TOO HIGH displayed on the screen changes from blue to <u>Yellow</u>. (Step 1) Turn the core of P. CW TRANSF. until the colour of the characters TOO LOW changes from blue to <u>Yellow</u>. (Step 2) Then slowly turn back the core of P. CW TRANSF. until the colour of the characters JUST REFERENCE changes from blue to <u>Yellow</u>. (Step 3) Press the INFORMATION key three times to return to normal screen. Perform CHANNEL PRESET again, and make sure that each broadcast is being received properly. 																																					
			VCO(CW) ***.** MHz																																						
			Screen display	<table border="1"> <thead> <tr> <th colspan="2">Step</th> </tr> <tr> <th>1</th> <th>→</th> <th>2</th> <th>→</th> <th>3</th> </tr> </thead> <tbody> <tr> <td>TOO HIGH</td> <td>Yellow</td> <td>→</td> <td>Blue</td> <td>→</td> <td>Blue</td> </tr> <tr> <td>ABOVE REFERENCE</td> <td>Blue</td> <td>→</td> <td>Blue</td> <td>→</td> <td>Blue</td> </tr> <tr> <td>JUST REFERENCE</td> <td>Blue</td> <td>→</td> <td>Blue</td> <td>→</td> <td><u>Yellow</u></td> </tr> <tr> <td>BELOW REFERENCE</td> <td>Blue</td> <td>→</td> <td>Blue</td> <td>→</td> <td>Blue</td> </tr> <tr> <td>TOO LOW</td> <td>Blue</td> <td>→</td> <td><u>Yellow</u></td> <td>→</td> <td>Blue</td> </tr> </tbody> </table>	Step		1	→	2	→	3	TOO HIGH	Yellow	→	Blue	→	Blue	ABOVE REFERENCE	Blue	→	Blue	→	Blue	JUST REFERENCE	Blue	→	Blue	→	<u>Yellow</u>	BELOW REFERENCE	Blue	→	Blue	→	Blue	TOO LOW	Blue	→	<u>Yellow</u>	→	Blue
Step																																									
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JUST REFERENCE	Blue	→	Blue	→	<u>Yellow</u>																																				
BELOW REFERENCE	Blue	→	Blue	→	Blue																																				
TOO LOW	Blue	→	<u>Yellow</u>	→	Blue																																				
Adjustment of DELAY POINT	Remote control unit		DELAY POINT (AGC TAKE-OVER)	<ol style="list-style-type: none"> Receive a black and white signal (colour off). Select 1.IF from the SERVICE MENU. Select 2.DELAY POINT by pressing the 2 key on the remote control. Adjust the FUNCTION - or + key until video noise disappears. Press the MENU key and memorize the set value. Turn to other channels and make sure that there are no irregularities. 																																					
			Setting item (Adjustment item)	<table border="1"> <thead> <tr> <th>Variable range</th> <th>Initial setting value</th> </tr> </thead> <tbody> <tr> <td>DELAY POINT (AGC TAKE-OVER)</td> <td>0~63</td> <td>30</td> </tr> </tbody> </table>	Variable range	Initial setting value	DELAY POINT (AGC TAKE-OVER)	0~63	30																																
Variable range	Initial setting value																																								
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VSM PRESET SETTING

Item	Measuring instrument	Test point	Adjustment part	Description
Setting of VSM PRESET	Remote control unit		1. BRIGHT 2. CONT. 3. COLOUR 4. SHARP 5. TINT 6. R DRIVE 7. B DRIVE 8. BASS 9. TREBLE	<p>1. Select 5.VSM PRESET from the SERVICE MENU.</p> <p>2. Select COOL with the MENU key of the remote control unit.</p> <p>3. Adjust the FUNCTION UP/DOWN and +/- key to bring the set values of 1.BRIGHT ~ 9.TREBLE to the values shown in the table.</p> <p>4. Press the MENU key and memorize the set value.</p> <p>5. Respectively select the VSM PRESET mode for NORMAL and WARM, and make similar adjustment as in 3 above.</p> <p>6. Press the MENU key and memorize the set value.</p> <p>* Refer to OPERATING INSTRUCTIONS for the PICTURE MODE.</p>

Setting item \ VSM preset mode	COOL	NORMAL	WARM
1. BRIGHT SETTING VALUE	+0	+0	+0
2. CONT. SETTING VALUE	+12	+10	+2
3. COLOUR SETTING VALUE	+6	+0	-2
4. SHARP SETTING VALUE	+0	+0	-2
5. TINT SETTING VALUE	+0	+0	+0
6. R DRIVE SETTING VALUE	-10	+15	+22
7. B DRIVE SETTING VALUE	-20	-25	-43
8. BASS SETTING VALUE	+0	+0	+0
9. TREBLE SETTING VALUE	+0	+0	+0

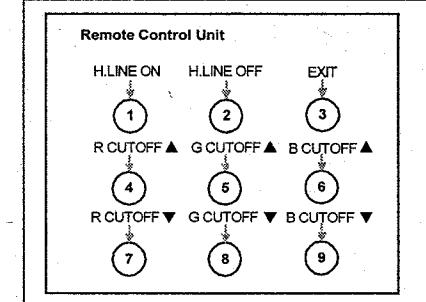
SETTING VALUES OF VSM PRESET

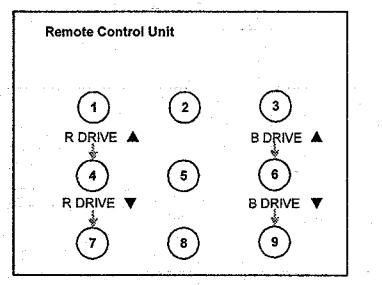
VIDEO / CHROMA CIRCUIT ADJUSTMENT

The setting (adjustment) using the REMOTE CONTROL UNIT is made on the basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.

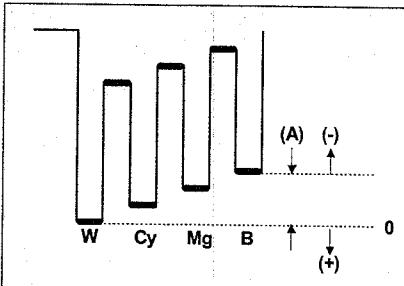
Setting Item (Adjustment Item)		Initial setting value
1.CUTOFF	R	-100
	G	-100
	B	-100
2.DRIVE	R	+0
	B	+0
3.BRIGHT		+0
4.CONTRAST		+0

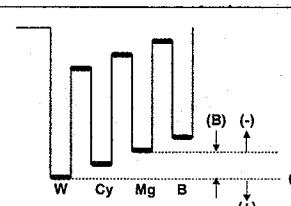
Setting item	Colour system	Initial setting value
	PAL SECAM	NTSC 3.58 NTSC 4.43
5.COLOUR	+0	+0
6.TINT	Composite VIDEO	— +0
	S VIDEO	— +0
7.BLACK OFFSET (SECAM)	R-Y	+0 —
	B-Y	+0 —
8.SHARP	-10	—
9.TEXT CONT	+6	—

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of WHITE BALANCE (Low Light)	Signal generator Remote control unit		1.CUT OFF (R)...* (G)...* (B)...* SCREEN VR [In HVT]	<ul style="list-style-type: none"> Set the PICTURE MODE to COOL. <ol style="list-style-type: none"> Receive a black and white signal(colour off). Select 2. V/C from the SERVICE MENU. Select 1.CUT OFF with the FUNCTION UP/DOWN key. Show one horizontal line with the 1 key. Gradually turn the SCREEN VR from the left end to the right direction to bring one of the red, green or blue colour faintly visible. Press 4~9 key, and bring out the other 2 colours and make one horizontal line visible in white. Turn the SCREEN VR and bring one white horizontal line faintly visible. Press 2 key, turn off 1.CUT OFF screen. Press the MENU key and memorize the set value. 

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of WHITE BALANCE (High Light)	Signal generator Remote control unit		2.DRIVE (R) * * * (B) * * *	<ol style="list-style-type: none"> Receive a black and white signal (colour off). Select 2.V/C from the SERVICE MENU. Select 2.DRIVE with the FUNCTION UP/DOWN key. Change the screen colour to white with 4 key or 7 key (Drive of Red), 6 key or 9 key (Drive of Blue). Press the MENU key, and memorize the set values. 
Adjustment of SUB BRIGHT	Remote control unit		3.BRIGHT	<ol style="list-style-type: none"> Receive any broadcast. Select 2.V/C from the SERVICE MENU. Select 3.BRIGHT with the FUNCTION UP/DOWN key. Set the initial setting value with the FUNCTION -/+ key. If the brightness is not the best with the initial setting value, make fine adjustment until you get the best brightness. Press the MENU key and memorize the set value.
Adjustment of SUB CONT.	Remote control unit		4.CONT.	<ol style="list-style-type: none"> Receive any broadcast. Select 2.V/C from the SERVICE MENU. Select 4.CONT with the FUNCTION UP/DOWN key. Set the initial setting value with the FUNCTION -/+ key. If the contrast is not the best with the initial setting value, make fine adjustment until you get the best contrast. Press the MENU key and memorize the set value.

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB COLOUR I	Remote control unit		5.COLOUR (PAL~NTSC)	[Method of adjustment without measuring instrument]
			PAL COLOUR	(PAL COLOUR) <ol style="list-style-type: none"> Receive PAL broadcast. Select 2.V/C from the SERVICE MENU. Select 5.COLOUR with the FUNCTION UP/DOWN key. Set the initial setting value for PAL COLOUR with the FUNCTION -/+ key. If the colour is not the best with the initial set value, make fine adjustment until you get the best colour. Press the MENU key and memorize the set value.
			SECAM COLOUR Only AV-28WT4EN AV-28WT4ENS	(SECAM COLOUR) <ol style="list-style-type: none"> Receive a SECAM broadcast. Make fine adjustment of SECAM COLOUR in the same manner as for above.
			NTSC COLOUR	(NTSC 3.58 COLOUR) <ol style="list-style-type: none"> Input a NTSC 3.58MHz COMPOSITE VIDEO signal from the EXT terminal. Make similar fine adjustment of NTSC 3.58 COLOUR in the same manner as for above.
				(NTSC 4.43 COLOUR) <ol style="list-style-type: none"> When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.

Item	Measuring instrument	Test point	Adjustment part	Description						
Adjustment of SUB COLOUR II	Signal generator Oscilloscope Remote control unit	TP-47B TP-E(+) [CRT SOCKET PWB]	5.COLOUR (PAL~NTSC)	[Method of adjustment using measuring instrument] (PAL COLOUR) 1. Receive a PAL full field colour bar signal (75% white). 2. Select 2.V/C from the SERVICE MENU. 3. Select 5.COLOUR with the FUNCTION UP/DOWN key. 4. Set the initial setting value of PAL COLOUR with the FUNCTION - or + key. 5. Connect the oscilloscope between TP-47B and TP-E(+). 6. Adjust PAL COLOUR and bring the value of (A) in the illustration to the values as shown given below (voltage difference between white (W) and blue (B)). 7. Press the MENU key and memorize the setting value. <table border="1"> <tr> <th>MODEL</th> <th>VOLTAGE(W-B)</th> </tr> <tr> <td>AV-28WT4EKS</td> <td>+12V</td> </tr> <tr> <td>AV-28WT4EN/ENS</td> <td>+3V</td> </tr> </table> (SECAM COLOUR) Only AV-28WT4EN AV-28WT4ENS 1. Receive a SECAM full field colour bar signal (75% white). 2. Set the initial setting value of SECAM COLOUR with the FUNCTION +/- key. 3. Adjust SECAM COLOUR and bring the value of (A) of the illustration to +4V. 4. Press the MENU key and memorize the setting value. (NTSC COLOUR) (NTSC 3.58 COLOUR) 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Set the initial setting value of NTSC 3.58 COLOUR with the FUNCTION +/- key. 3. Adjust NTSC 3.58 COLOUR and bring the value of (A) of the illustration to +8V(W-B). 4. Press the MENU key and memorize the setting value. (NTSC 4.43 COLOUR) 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values. 	MODEL	VOLTAGE(W-B)	AV-28WT4EKS	+12V	AV-28WT4EN/ENS	+3V
MODEL	VOLTAGE(W-B)									
AV-28WT4EKS	+12V									
AV-28WT4EN/ENS	+3V									

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of SUB TINT I	Remote control unit		6.TINT	[Method of adjustment without measuring instrument] NTSC 3.58 TINT [NTSC 3.58 TINT] 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.V/C from the SERVICE MENU. 3. Select 6. TINT with the FUNCTION UP/DOWN key. 4. Set the initial setting value of NTSC 3.58 TINT with the FUNCTION +/- key. 5. If you cannot get the best tint with the initial setting value, make fine adjustment until you get the best tint. 6. Press the MENU key and memorize the set value.
			NTSC 4.43 TINT	[NTSC 4.43 TINT] 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.
Adjustment of SUB TINT II	Signal generator Oscilloscope Remote control unit	TP-47B TP-E(+) [CRT SOCKET PWB]	6. TINT	[Method of adjustment using measuring instrument] NTSC 3.58 TINT [NTSC 3.58 TINT] 1. Input a NTSC 3.58MHz COMPOSITE VIDEO signal (full field colour bar with 75% white) from the EXT terminal. 2. Select 2.V/C from the SERVICE MENU. 3. Select 6.TINT with the FUNCTION UP/DOWN key. 4. Set the initial setting value of NTSC 3.58 TINT with the FUNCTION - or + key. 5. Connect the oscilloscope between TP-47B and TP-E(+). 6. Adjust NTSC 3.58 TINT to bring the value of (B) in the illustration to +3V (voltage difference between white (W) and magenta (Mg)). 7. Press the MENU key and memorize the setting value 
			NTSC 4.43 TINT	[NTSC 4.43 TINT] 1. When NTSC 3.58 is set, NTSC 4.43 will be automatically set at the respective values.

[Only AV-28WT4EN / AV-28WT4ENS]

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of BLACK OFFSET (SECAM) I	Remote control unit		7. BLACK OFFSET (R-Y) *** (B-Y) ***	<p>[Method of adjustment without measuring instrument]</p> <p>1. Receive a SECAM broadcast. 2. Select 2. V/C from SERVICE MENU. 3. Select 7. BLACK OFFSET with the FUNCTION UP/DOWN key. 4. Set the initial setting value for BLACK OFFSET (R-Y) and (B-Y) with 4 and 7 or 6 and 9 keys of the remote control. 5. If the picture is not the best with the initial setting value, make fine adjustment until you get the best picture. 6. Press the MENU key and memorize the setting value.</p>
Adjustment of BLACK OFFSET (SECAM) II	Signal generator Oscilloscope Remote control unit	35 PIN (R-Y) 36 PIN (B-Y) IC-101 ON MAIN PWB	7. BLACK OFFSET (R-Y) *** (B-Y) ***	<p>[Method of adjustment using measuring instrument]</p> <p>1. Receive a SECAM COLOUR bar signal (full field colour bar 75% white). 2. Select 2. V/C from SERVICE MENU. 3. Select 7. BLACK OFFSET with the FUNCTION UP/DOWN key. 4. Connect the oscilloscope between 35 pin of IC-101 and TP-E (↔). 5. By using 4 and 7 keys of the remote control, adjust the BLACK OFFSET (R-Y) so that it becomes the waveform changes from (a) to (b) shown in the figure. 6. Connect the oscilloscope between 36 pin of IC-101 and TP-E. 7. By using 6 and 9 keys of the remote control, adjust the BLACK OFFSET (B-Y) so that it becomes the waveform changes from (c) to (d) shown in the figure. 8. If the picture is not the best with the adjusted picture, make fine adjustment until you get the best picture. 9. Press the MENU key and memorize the setting value.</p>

DEFLECTION CIRCUIT ADJUSTMENT

There are 7 modes of the adjustment (1) 50Hz mode (①PANORAMIC ②FULL ③REGULAR ④14:9 ZOOM ⑤16:9 ZOOM ⑥16:9 ZOOM SUB TITLE), (2) 60Hz mode (each aspect mode) depending upon the kind of signals (vertical frequency 50Hz / 60Hz).

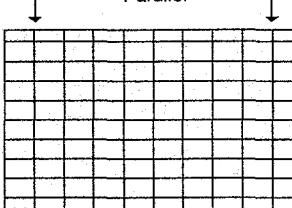
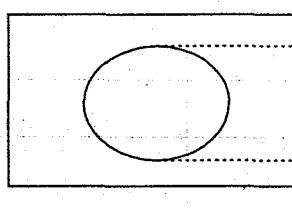
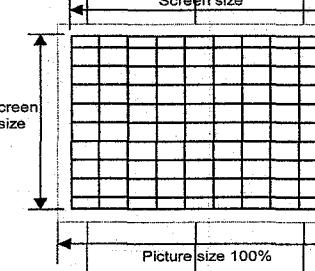
- The adjustment using the remote control unit is made on the basis of the initial setting values.
- When the 50Hz PANORAMIC mode has been established, the setting of other modes will be done automatically. However, if the picture quality has not been optimized, adjust each mode again, respectively.
- The setting values which adjust the screen to the optimum condition can be different from the initial setting values.

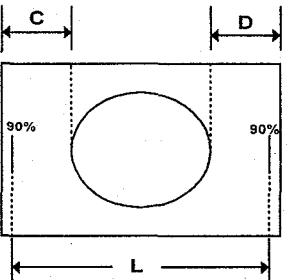
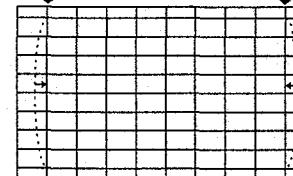
Initial setting value (1/2)

Setting item	Adjustment name	Initial setting value			
		50Hz mode			
PANORAMIC	14:9 ZOOM	16:9 ZOOM	16:9 ZOOM SUB TITLE		
1.TRAPEZ	Trapezoidal distortion correction	-12	-1	-1	+2
2.V-SHIFT	Vertical center	+1	+0	-1	-16
3.V-SIZE	Vertical height	-10	+10	+25	+24
4.H-CENT	Horizontal center	-10	-10	-10	-10
5.H-SIZE	Horizontal width	+21	-13	-8	-7
6.EW-PIN	Side pin correction	-7	+0	+7	+2
7.V-S.CR	Vertical height correction	+5(Fixed)	-8(Fixed)	-15(Fixed)	-2(Fixed)
8.V-LIN	Vertical Linearity	+1	-1	-1	-7
9.V-EDGE	Vertical edge correction	+7	+0	+0	+0
10.EW-COR	Side pin four corner correction	+7	-1	-2	+1
11.ABL POINT	Auto beam limiter point	+0(Fixed)	+3(Fixed)	+0(Fixed)	+0(Fixed)
12.ABL GAIN	Auto beam limiter gain	+0(Fixed)	+2(Fixed)	+0(Fixed)	+0(Fixed)

Initial setting value (2/2)

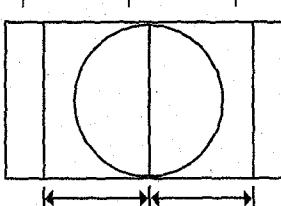
Setting item	Adjustment name	Initial setting value		
		50Hz mode		60Hz mode
FULL	REGULAR	PANORAMIC		
1.TRAPEZ	Trapezoidal distortion correction	+1	+0	-1
2.V-SHIFT	Vertical center	+0	+2	+5
3.V-SIZE	Vertical height	-9	-7	-2
4.H-CENT	Horizontal center	-10	-10	-6
5.H-SIZE	Horizontal width	-7	-21	+0
6.EW-PIN	Side pin correction	-7	-8	-1
7.V-S.CR	Vertical height correction	-3(Fixed)	-3(Fixed)	+0(Fixed)
8.V-LIN	Vertical Linearity	-1	-1	+0
9.V-EDGE	Vertical edge correction	+0	+0	+0
10.EW-COR	Side pin four corner correction	-6	-4	-3
11.ABL POINT	Auto beam limiter point	+0(Fixed)	+3(Fixed)	+0(Fixed)
12.ABL GAIN	Auto beam limiter gain	+0(Fixed)	+2(Fixed)	+0(Fixed)

Item	Measuring instrument	Test point	Adjustment part	Description																					
Adjustment of TRAPEZ	Signal generator Remote control unit		1.TRAPEZ	<p>[50Hz PANORAMIC mode]</p> <ol style="list-style-type: none"> Receive a cross-hatch signal of vertical frequency 50Hz. Select 4.DEF from the SERVICE MENU. Select 1.TRAPEZ with the FUNCTION UP/DOWN key. Set the initial setting value of TRAPEZ with the FUNCTION - + key. Adjust TRAPEZ and bring the VERTICAL lines at the right and left edges of the screen parallel. 																					
Adjustment of V-SHIFT			2.V-SHIFT	<p>6. Receive a circle pattern signal</p> <p>7. Select 2.V-SHIFT and set the initial setting value.</p> <p>8. Adjust V-SHIFT to make A = B.</p> <p>9. Press the MENU key and memorize the set value.</p> 																					
Adjustment of V-SIZE			3.V. SIZE	<p>10. Receive a cross-hatch signal.</p> <p>11. Select 3.V-SIZE and set the initial setting value.</p> <p>12. Adjust V-SIZE and make sure that the vertical screen size of the picture size is in the bellow table.</p> <p>13. Press the MENU key and memorize the set value.</p> <p>14. Input a NTSC VIDEO signal from the EXT terminal, and make sure that the vertical screen size of the each ASPECT mode is in the table below.</p> <p>15. Press the MENU key and memorize the set value.</p>  <table border="1"> <thead> <tr> <th>MODE</th> <th>PANORAMIC</th> <th>14:9 ZOOM</th> <th>16:9 ZOOM</th> <th>16:9 ZOOM SUB TITLE</th> <th>FULL</th> <th>REGULAR</th> </tr> </thead> <tbody> <tr> <td>SCREEN TOP</td> <td>87%</td> <td>80%</td> <td>70%</td> <td>70%</td> <td>92%</td> <td>92%</td> </tr> <tr> <td>SCREEN BOTTOM</td> <td>87%</td> <td>80%</td> <td>70%</td> <td>83%</td> <td>92%</td> <td>92%</td> </tr> </tbody> </table> <p style="text-align: center;">[SCREEN SIZE]</p>	MODE	PANORAMIC	14:9 ZOOM	16:9 ZOOM	16:9 ZOOM SUB TITLE	FULL	REGULAR	SCREEN TOP	87%	80%	70%	70%	92%	92%	SCREEN BOTTOM	87%	80%	70%	83%	92%	92%
MODE	PANORAMIC	14:9 ZOOM	16:9 ZOOM	16:9 ZOOM SUB TITLE	FULL	REGULAR																			
SCREEN TOP	87%	80%	70%	70%	92%	92%																			
SCREEN BOTTOM	87%	80%	70%	83%	92%	92%																			

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of H.CENTER			4.H-CENT.	<p>16. Receive a circle pattern signal.</p> <p>17. Select 4.H-CENT and set the initial setting value.</p> <p>18. Adjust H-CENT to make C=D.</p> <p>19. Press the MENU key and memorize the set value.</p> 
Adjustment of H.SIZE			5.H-SIZE	<p>20. Receive a cross-hatch signal.</p> <p>21. Select 5.H-SIZE and set the initial setting value.</p> <p>22. Adjust H-SIZE and make sure that the horizontal screen size of the picture size is in the bellow table.</p> <p>23. Press the MENU key and memorize the set value.</p> <p>※The numeric of the REGULAR and 14:9 ZOOM modes are shown the length of the 90% horizontal size position(L) as shown in the figure above.</p> <p>24. Input a NTSC VIDEO signal from the EXT terminal, and make sure that the horizontal screen size of the each ASPECT mode is in the below table.</p> <p>25. Press the MENU key and memorize the set value.</p>
Adjustment of EW-PIN			6.EW-PIN	<p>26. Select 6.EW-PIN and set the initial setting value.</p> <p>27. Adjust EW-PIN and make the 2nd.vertical lines at the left and right edges of the screen straight. Also make sure that the 3rd vertical lines are straight.</p> <p>28. Press the MENU key and memorize the set value.</p> 

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of V-S.CR			7.V-S.CR 8.V-LIN 9.V-EDGE	<ul style="list-style-type: none"> ★ No alignment, but adjust this mode if result of no alignment is too bad. 29. Select 7.V-S.CR , 8.V-LIN and 9.V-EDGE and set the initial setting value. 30. Adjust each item to get exact square of cross-hatch pattern. 31. Press the MENU key and memorize the set value.
Adjustment of EW-COR			10.EW-COR	<ul style="list-style-type: none"> ★ No alignment, but adjust this mode if result of no alignment is too bad. 32. Select 10.EW-COR and set the initial setting value. 33. Adjust EW-COR and make the vertical lines at the four corners of the screen straight. 34. Press the MENU key and memorize the set value.
				At first the adjustment in 50Hz-PANORAMIC mode should be done, then the data for the other zoom mode is corrected in the respective value at the same time. And confirm the deflection adjustment initial setting value in 60Hz(NTSC EXT mode) PANORAMIC mode. If the adjustment in 50Hz each zoom mode has been done and stored, the data for the same aspect modes in 60Hz is corrected in the respective value. Only the data for the other aspect mode in 60Hz is corrected for itself.

H. BLANKING ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
Adjustment of H.BLANKING			H.BLK Capacitor [On MAIN PWB]	<ol style="list-style-type: none"> 1. Receive the PAL circle pattern in REGULAR mode. 2. Adjust the H.BLK capacitor to equalize widths H and H' as figure. 

AUDIO CIRCUIT ADJUSTMENT

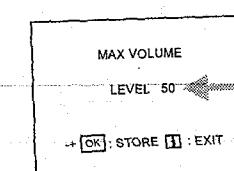
- Do not touch 3.AUDIO(1. CONC LIMIT, 2. A2 ID THR) of the SERVICE MENU as it requires no adjustment.

3. AUDIO

Setting item	Variable range	fixed value
1. CONC LIMIT(<i>Do not adjust</i>)	00H~FFH	0AH
2. A2 ID THR(<i>Do not adjust</i>)	00H~FFH	19H

SETTING of MAX VOLUME

- This model has a function that can set MAX VOLUME in the SERVICE MENU. (Do not adjust them under normal condition)

Item	Measuring instrument	Test point	Adjustment part	Description
Setting of MAX VOLUME	Remote Control unit		MAX VOLUME	<ol style="list-style-type: none"> 1. Select 8. MAX VOLUME from the SERVICE MENU. 2. Set the setting value with the FUNCTION +/- key. 3. Usually, set the value to LEVEL 50. 

PARTS LIST

CAUTION

- The parts identified by the Δ symbol are important for the safety. Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines — in the Parts No. columns will not be supplied.
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
H V R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
M F R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
M G R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
M P R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
O M R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
'COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES

F	G	J	K	M	N	R	H	Z	P
$\pm 1\%$	$\pm 2\%$	$\pm 5\%$	$\pm 10\%$	$\pm 20\%$	$\pm 30\%$	+30% -10%	+50% -10%	+80% -20%	+100% -0%

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

CONTENTS

■ USING PW BOARD & REMOTE CONTROL UNIT	35
■ EXPLODED VIEW PARTS LIST AV-28WT4EK / AV-28WT4EKS	36
■ EXPLODED VIEW PARTS LIST AV-28WT4EN / AV-28WT4ENS	37
■ EXPLODED VIEW I	38
■ EXPLODED VIEW II	39
■ PRINTED WIRING BOARD PARTS LIST	

AV-28WT4EK / AV-28WT4EKS

● MAIN PW BOARD ASS'Y	40
● AUTO ASPECT MODULE PW BOARD ASS'Y	43
● IF MODULE PW BOARD ASS'Y	43
● POWER / DEF PW BOARD ASS'Y	43
● CRT SOCKET PW BOARD ASS'Y	45
● FRONT CONTROL PW BOARD ASS'Y	46
● AV TERMINAL PW BOARD ASS'Y	47

AV-28WT4EN / AV-28WT4ENS

● MAIN PW BOARD ASS'Y	48
● AUTO ASPECT MODULE PW BOARD ASS'Y	51
● IF MODULE PW BOARD ASS'Y	51
● POWER / DEF PW BOARD ASS'Y	51
● CRT SOCKET PW BOARD ASS'Y	51
● FRONT CONTROL PW BOARD ASS'Y	51
● AV TERMINAL PW BOARD ASS'Y	51

■ REMOTE CONTROL UNIT PARTS LIST	52
■ PACKING	53
■ PACKING PARTS LIST	54

USING PW BOARD & REMOTE CONTROL UNIT

PWB ASS'Y	Model	AV-28WT4EK	AV-28WT4EKS	AV-28WT4EN	AV-28WT4ENS
MAIN PWB	SJF-1923A-U2	←		SJF-1023A-U2	←
AUTO ASPECT MODULE PWB	SMC-W001A(U)	←	←	←	←
IF MODULE PWB	SJF0F921A-U2	←		SJF0F021A-U2	←
POWER / DEF PWB	SJF-2023A-U2	←	←	←	←
CRT SOCKET PWB	SJF-3022A-U2	←	←	←	←
FRONT CONTROL PWB	SJF-8023A-U2	←	←	←	←
AV TERMINAL PWB	SJF0J022A-U2	←	←	←	←
REMOTE CONTROL UNIT	RM-C794-1E	←		RM-C795-1E	←

AV-28WT4EK / AV-28WT4EKS

EXPLODED VIEW PARTS LIST

Ref.No.	Part No.	Part Name	Description	Local
AV-28WT4EK				
△ L01	QW0035-001	DEG COIL		
△ T2551	CETH019-00AJ1	H.V.TRANSF.	(SERVICE)	
△ V01	W66QBD590X03	CRT	(Inc.DY,PC,WED)	*
1	CHGB0029-0B	BRAIDED ASSY		*
2	CHGB0017-0B	BRAIDED SUB ASSY	(x2)	*
3	CM36311-001	KNOB CAP		*
4	CHFD125-06BD	FFC WIRE		*
5	CM12931-A01-E	CONTROL BASE		*
6	QYSBSB3012M	TAPPING SCREW		*
7	CM12930-C01-E	CHASSIS BASE		*
8	CM12924-C04-E	AV TERMINAL BASE		*
9	QYSBSB3012M	TAPPING SCREW	(x3)For AV TERMI BOARD	*
△ 10	AEEMP003-185A	POWER CORD		*
△ 11	CM46618-A01-E	POWER CORD CLAMP		*
△ 12	CM12582-A04-E	REAR COVER		*
13	QYSBSAG4016N	TAPPING SCREW	(x13)For R.COVER	*
△ 14	LC20091-005A-U	RATING LABEL		*
16	CEBSF10P-01KJ6	SPEAKER	(x2)SP01,SP02	*
17	2528MXSP-2SE	DOME SP ASSY	(x2)	*
18	CM36226-COA-H	SPEAKER NET	(x2)	*
100	CM12677-B0U-E	F CABINET ASSY	Inc.No.103~112	*
103	CM36223-001	LED LENS		*
105	CM35235-003-H	SPRING		*
106	CM36225-010-E	POWER KNOB	(SERVICE)	*
107	CM48125-001	JVC MARK		*
108	CM48229-00A	DOOR LATCH		*
109	CM36224-018-E	OPERATION SHEET		*
110	CM22898-015-E	DOOR	(SERVICE)	*
111	CM48076-A01	CDS WINDOW		*
112	CM35893-A01-E	CHASSIS RAIL	(x2)	*

AV-28WT4EKS

Ref.No.	Part No.	Part Name	Description	Local
AV-28WT4EKS				
△ L01	QW0035-001	DEG COIL		
△ T2551	CETH019-00AJ1	H.V.TRANSF.	(SERVICE)	
△ V01	W66QBD590X03	CRT	(Inc.DY,PC,WED)	*
1	CHGB0029-0B	BRAIDED ASSY		*
2	CHGB0017-0B	BRAIDED SUB ASSY	(x2)	*
3	CM36311-001	KNOB CAP		*
4	CHFD125-06BD	FFC WIRE		*
5	CM12931-A01-E	CONTROL BASE		*
6	QYSBSB3012M	TAPPING SCREW		*
7	CM12930-C01-E	CHASSIS BASE		*
8	CM12924-C04-E	AV TERMINAL BASE		*
9	QYSBSB3012M	TAPPING SCREW	(x3)For AV TERMI BOARD	*
△ 10	AEEMP003-185A	POWER CORD		*
△ 11	CM46618-A01-E	POWER CORD CLAMP		*
△ 12	CM12582-A04-E	REAR COVER		*
13	QYSBSAG4016N	TAPPING SCREW	(x13)For R.COVER	*
△ 14	LC20091-006A-U	RATING LABEL		*
16	CEBSF10P-01KJ6	SPEAKER	(x2)SP01,SP02	*
17	2528MXSP-2SE	DOME SP ASSY	(x2)	*
18	CM36226-00B-H	SP NET ASSY	(x2)	*
100	CM12677-B0V-E	F CABINET ASSY	Inc.No.103~112	*
103	CM36223-001	LED LENS		*
105	CM35235-003-H	SPRING		*
106	CM36225-011-E	POWER KNOB	(SERVICE)	*
107	CM48125-004	JVC MARK		*
108	CM48229-00A	DOOR LATCH		*
109	CM36224-018-E	OPERATION SHEET		*
110	CM22898-017-E	DOOR	(SERVICE)	*
111	CM48076-A01	CDS WINDOW		*
112	CM35893-A01-E	CHASSIS RAIL	(x2)	*

AV-28WT4EN / AV-28WT4ENS

EXPLODED VIEW PARTS LIST

Ref.No.	Part No.	Part Name	Description	Local
AV-28WT4EN				
△ L01	QW0035-001	DEG COIL		
△ T2551	CETH019-00AJ1	H.V.TRANSF.	(SERVICE)	
△ V01	W66QBD590X03	CRT	(Inc.DY,PC,WED)	*
1	CHGB0029-0B	BRAIDED ASSY		*
2	CHGB0017-0B	BRAIDED SUB ASSY	(x2)	*
3	CM36311-001	KNOB CAP		*
4	CHFD125-06BD	FFC WIRE		*
5	CM12931-A01-E	CONTROL BASE		*
6	QYSBSB3012M	TAPPING SCREW		*
7	CM12930-C01-E	CHASSIS BASE		*
8	CM12924-C04-E	AV TERMINAL BASE		*
9	QYSBSB3012M	TAPPING SCREW	(x3)For AV TERMI BOARD	*
△ 10	AEEMP001-185	POWER CORD		*
△ 11	CM46618-A01-E	POWER CORD CLAMP		*
△ 12	CM12582-A04-E	REAR COVER		*
13	QYSBSAG4016N	TAPPING SCREW	(x13)For R.COVER	*
△ 14	LC20092-011A-U	RATING LABEL	For ENG/GER/ITA	*
15	LC20093-011A-U	RATING LABEL	For ENG/ESP/FRA	*
16	CEBSF10P-01KJ6	SPEAKER	(x2)SP01,SP02	*
17	2528MXSP-2SE	DOME SP ASSY	(x2)	*
18	CM36226-COA-H	SPEAKER NET	(x2)	*
100	CM12677-B0W-E	F CABINET ASSY	Inc.No.103~112	*
103	CM36223-001	LED LENS		*
105	CM35235-003-H	SPRING		*
106	CM36225-010-E	POWER KNOB	(SERVICE)	*
107	CM48125-001	JVC MARK		*
108	CM48229-00A	DOOR LATCH		*
109	CM36224-018-E	OPERATION SHEET		*
110	CM22898-015-E	DOOR	(SERVICE)	*
111	CM48076-A01	CDS WINDOW		*
112	CM35893-A01-E	CHASSIS RAIL	(x2)	*

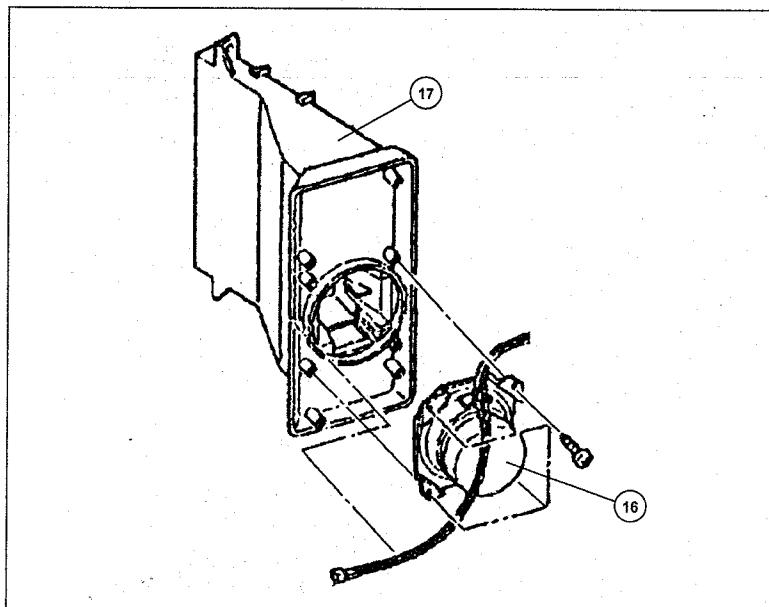
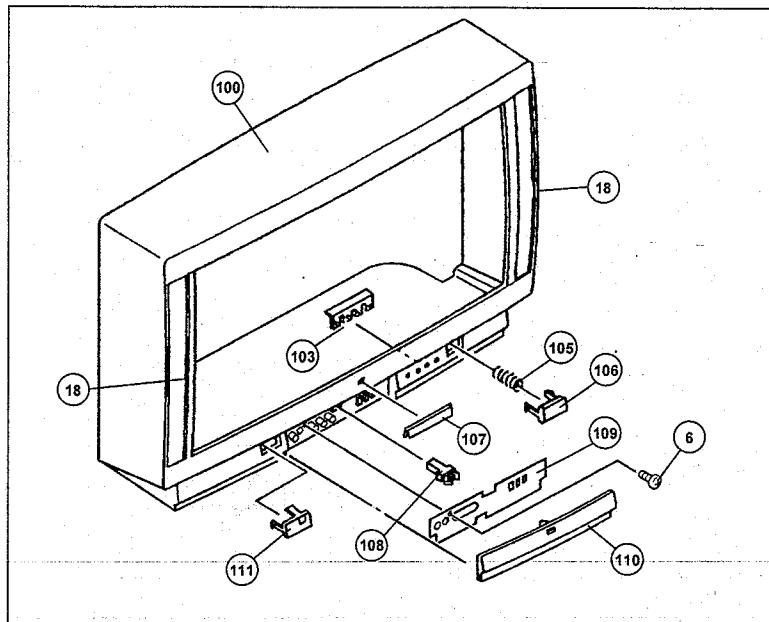
AV-28WT4ENS

Ref.No.	Part No.	Part Name	Description	Local
AV-28WT4ENS				
△ L01	QW0035-001	DEG COIL		
△ T2551	CETH019-00AJ1	H.V.TRANSF.	(SERVICE)	
△ V01	W66QBD590X03	CRT	(Inc.DY,PC,WED)	*
1	CHGB0029-0B	BRAIDED ASSY		*
2	CHGB0017-0B	BRAIDED SUB ASSY	(x2)	*
3	CM36311-001	KNOB CAP		*
4	CHFD125-06BD	FFC WIRE		*
5	CM12931-A01-E	CONTROL BASE		*
6	QYSBSB3012M	TAPPING SCREW		*
7	CM12930-C01-E	CHASSIS BASE		*
8	CM12924-C04-E	AV TERMINAL BASE		*
9	QYSBSB3012M	TAPPING SCREW	(x3)For AV TERMI BOARD	*
△ 10	AEEMP001-185	POWER CORD		*
△ 11	CM46618-A01-E	POWER CORD CLAMP		*
△ 12	CM12582-A04-E	REAR COVER		*
13	QYSBSAG4016N	TAPPING SCREW	(x13)For R.COVER	*
△ 14	LC20092-012A-U	RATING LABEL	For ENG/GER/ITA	*
15	LC20093-012A-U	RATING LABEL	For ENG/ESP/FRA	*
16	CEBSF10P-01KJ6	SPEAKER	(x2)SP01,SP02	*
17	2528MXSP-2SE	DOME SP ASSY	(x2)	*
18	CM36226-00B-H	SP NET ASSY	(x2)	*
100	CM12677-B0X-E	F CABINET ASSY	Inc.No.103~112	*
103	CM36223-001	LED LENS		*
105	CM35235-003-H	SPRING		*
106	CM36225-011-E	POWER KNOB	(SERVICE)	*
107	CM48125-004	JVC MARK		*
108	CM48229-00A	DOOR LATCH		*
109	CM36224-018-E	OPERATION SHEET		*
110	CM22898-017-E	DOOR	(SERVICE)	*
111	CM48076-A01	CDS WINDOW		*
112	CM35893-A01-E	CHASSIS RAIL	(x2)	*

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK / AV-28WT4EKS / AV-28WT4EN / AV-28WT4ENS

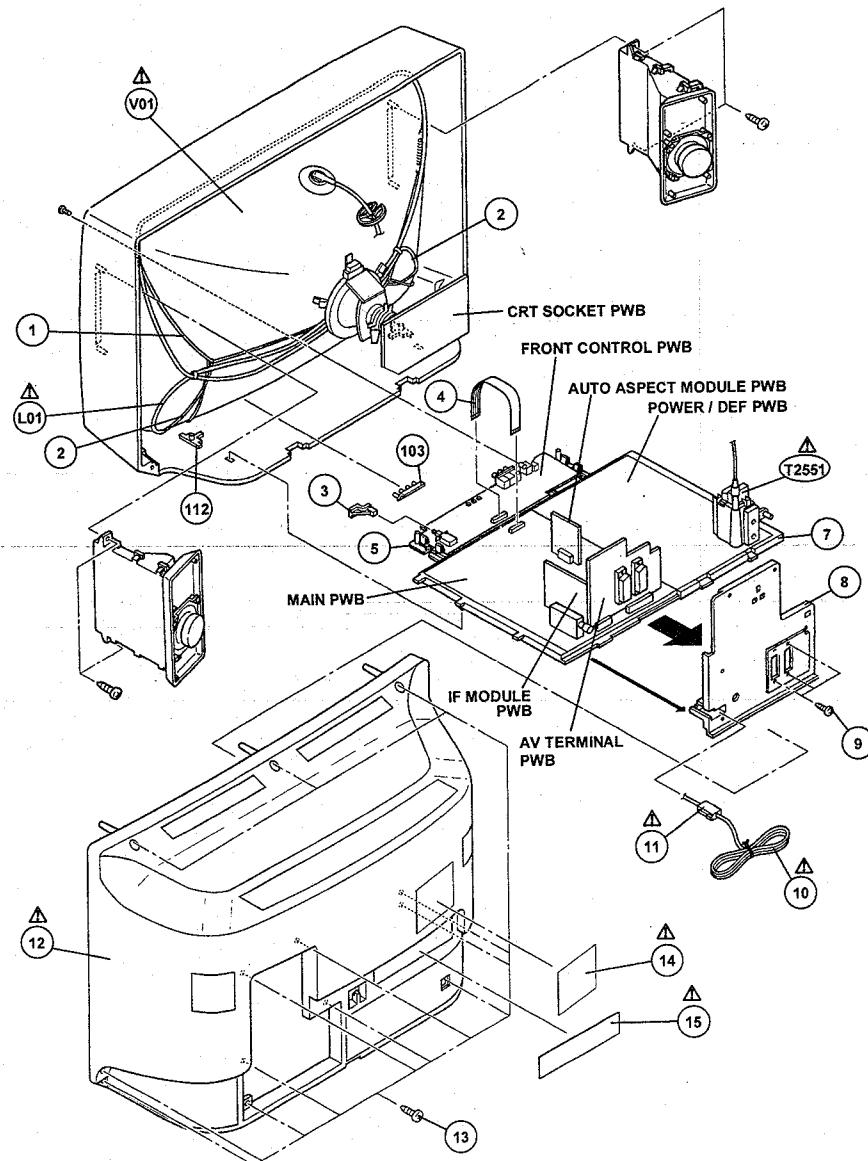
EXPLODED VIEW I



AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK / AV-28WT4EKS / AV-28WT4EN / AV-28WT4ENS

EXPLODED VIEW III



AV-28WT4EK / 28WT4EKS**PRINTED WIRING BOARD PARTS LIST****MAIN P.W. BOARD ASS'Y (SJF-1923A-U2)**

Symbol No.	Part No.	Part Name	Description	Local
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RESISTOR

R1001	QRE141J-474X	C R	470kΩ 1/4W	J *
R1002	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1003-06	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1011-02	QRE141J-391Y	C R	390Ω 1/4W	J *
R103-04	QRE141J-102Y	C R	1kΩ 1/4W	J *
R105	QRE141J-562Y	C R	5.6kΩ 1/4W	J *
R106	QRE141J-102Y	C R	1kΩ 1/4W	J *
R107	QRE141J-561Y	C R	560Ω 1/4W	J *
R108	QRE141J-224Y	C R	220kΩ 1/4W	J *
R109	QRE141J-273Y	C R	27kΩ 1/4W	J *
R110	QRE141J-103Y	C R	10kΩ 1/4W	J *
R111	QRE141J-472Y	C R	4.7kΩ 1/4W	J *
R112-14	QRE141J-101Y	C R	100Ω 1/4W	J *
R115-18	QRE141J-102Y	C R	1kΩ 1/4W	J *
R119	QRE141J-333Y	C R	33kΩ 1/4W	J *
R120	QRE141J-102Y	C R	1kΩ 1/4W	J *
R121	QRE141J-472Y	C R	4.7kΩ 1/4W	J *
R122	QRE141J-103Y	C R	10kΩ 1/4W	J *
R125	QRE141J-102Y	C R	1kΩ 1/4W	J *
R126	QRE141J-681Y	C R	680Ω 1/4W	J *
R127	QRE141J-123Y	C R	12kΩ 1/4W	J *
R128	QRE141J-123Y	C R	12kΩ 1/4W	J *
R129	QRE141J-561Y	C R	560Ω 1/4W	J *
R1201	QRE141J-750Y	C R	75Ω 1/4W	J *
R1202	QRJ146J-271X	C R	270Ω 1/4W	J *
R1203	QRE141J-101Y	C R	100Ω 1/4W	J *
R1204	QGO1GJ-101	OM R	100Ω 1M	J *
R1205	QRE141J-101Y	C R	100Ω 1/4W	J *
R1206	QRE141J-331Y	C R	330Ω 1/4W	J *
R1208	QRE141J-472Y	C R	4.7kΩ 1/4W	J *
R1209	QRE141J-152Y	C R	1.5kΩ 1/4W	J *
R1210	QRE141J-101Y	C R	100Ω 1/4W	J *
R1211	QRE141J-822Y	C R	8.2kΩ 1/4W	J *
R1212	QRE141J-101Y	C R	100Ω 1/4W	J *
R1213	QRE141J-682Y	C R	6.8kΩ 1/4W	J *
R1214-15	QRE141J-471Y	C R	470Ω 1/4W	J *
R1218-19	QRE141J-391Y	C R	390Ω 1/4W	J *
R1220-21	QRE141J-103Y	C R	100Ω 1/4W	J *
R1222	QRE141J-221Y	C R	220Ω 1/4W	J *
R1223	QRE141J-750Y	C R	75Ω 1/4W	J *
R1224	QRE141J-331Y	C R	330Ω 1/4W	J *
R1225	QRE141J-151Y	C R	150Ω 1/4W	J *
R1226	QRE141J-101Y	C R	100Ω 1/4W	J *
R1228	QRE141J-182Y	C R	1.8kΩ 1/4W	J *
R1229	QRE141J-273Y	C R	27kΩ 1/4W	J *
R1230	QRE141J-393Y	C R	390Ω 1/4W	J *
R1231	QRE141J-382Y	C R	1.8kΩ 1/4W	J *
R1232	QRG01GJ-101	OM R	100Ω 1M	J *
R1233-34	QRE141J-152Y	C R	1.5kΩ 1/4W	J *
R1235-36	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1237-38	QRE141J-471Y	C R	470Ω 1/4W	J *
R1242	QRE141J-323Y	C R	82kΩ 1/4W	J *
R1243	QRE141J-391Y	C R	390Ω 1/4W	J *
R1245	QRE141J-823Y	C R	82kΩ 1/4W	J *
R1246	QRE141J-391Y	C R	390Ω 1/4W	J *
R1247-48	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1249	QRE141J-221Y	C R	220Ω 1/4W	J *
R1252	QRZ9017-470	FUSE, RESISTOR	47Ω 1/4W	J *
R1253	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1254-55	QRE141J-331Y	C R	18kΩ 1/4W	J *
R1256	QRE141J-103Y	C R	10kΩ 1/4W	J *

Symbol No.	Part No.	Part Name	Description	Local
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RESISTOR

R1257	QRE141J-222Y	C R	2.2kΩ 1/4W	J *
R1260-61	QRE141J-750Y	C R	75Ω 1/4W	J *
R1262-63	QRE141J-101Y	C R	100Ω 1/4W	J *
R1264	QRE141J-561Y	C R	560Ω 1/4W	J *
R1268	QRE141J-221Y	C R	220Ω 1/4W	J *
R1401-02	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1403	QRE141J-682Y	C R	6.8kΩ 1/4W	J *
R1404	QRE141J-183Y	C R	18kΩ 1/4W	J *
R1405	QRE141J-223Y	C R	22kΩ 1/4W	J *
R1406	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1451	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1452	QRE141J-153Y	C R	15kΩ 1/4W	J *
R1453	QRE141J-331Y	C R	33kΩ 1/4W	J *
R1455	QRE141J-184Y	C R	180kΩ 1/4W	J *
R1456	QRE141J-562Y	C R	5.6kΩ 1/4W	J *
R1457	QRE141J-223Y	C R	22kΩ 1/4W	J *
R1458	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1501	QRE141J-621Y	C R	620Ω 1/4W	J *
R1503	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1504	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1505	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1508	QRE141J-682Y	C R	6.8kΩ 1/4W	J *
R1509	QRE141J-123Y	C R	12kΩ 1/4W	J *
R1510	QRE141J-392Y	C R	3.9kΩ 1/4W	J *
R1511	QRE141J-392Y	C R	3.9kΩ 1/4W	J *
R1601-02	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1603	QRE141J-182Y	C R	1.8kΩ 1/4W	J *
R1604	QRE141J-331Y	C R	33kΩ 1/4W	J *
R1605	QRE141J-182Y	C R	1.8kΩ 1/4W	J *
R1606	QRE141J-331Y	C R	33kΩ 1/4W	J *
R1607-08	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1611-02	QRE141J-101Y	C R	100Ω 1/4W	J *
R1620	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1621	QRE141J-104Y	C R	100Ω 1/4W	J *
R1622	QRE141J-822Y	C R	8.2kΩ 1/4W	J *
R1623	QRE141J-101Y	C R	100Ω 1/4W	J *
R1624	QRE141J-271Y	C R	2.2kΩ 1/4W	J *
R1625	QRE141J-561Y	C R	560Ω 1/4W	J *
R1626	QRE141J-271Y	C R	2.2kΩ 1/4W	J *
R1627	QRE141J-561Y	C R	560Ω 1/4W	J *
R1628	QRE141J-271Y	C R	2.2kΩ 1/4W	J *
R1629	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1630	QRE141J-470Y	C R	470Ω 1/4W	J *
R1631	QRE141J-122Y	C R	1.2kΩ 1/4W	J *
R1632	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1633-34	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1635-86	QRE141J-152Y	C R	1.5kΩ 1/4W	J *
R1637-88	QRE141J-32X	C R	2.2Ω 1/4W	J *
R1639	QRE141J-122Y	C R	1.2kΩ 1/4W	J *
R1641-93	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1645	QRE141J-331Y	C R	330Ω 1/4W	J *
R1701	QRB049J-472	NET.R	4.7kΩ	*
R1702	QRB069J-103	NET.R	10kΩ	*
R1703-04	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1705	QRE141J-331Y	C R	330Ω 1/4W	J *
R1706	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1707	QRE141J-331Y	C R	330Ω 1/4W	J *
R1708	QRE141J-747Y	C R	270kΩ 1/4W	J *
R1709-12	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1710	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1721	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1722	QRE141J-221Y	C R	220Ω 1/4W	J *
R1723	QRE141J-101Y	C R	100Ω 1/4W	J *
R1724-29	QRE141J-102Y	C R	1kΩ 1/4W	J *
R1730-34	QRE141J-472Y	C R	4.7kΩ 1/4W	J *
R1735-37	QRE141J-152Y	C R	1.5kΩ 1/4W	J *
R1738	QRE141J-563Y	C R	56kΩ 1/4W	J *
R1739	QRE141J-562Y	C R	5.6kΩ 1/4W	J *
R1740	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1741	QRE141J-223Y	C R	22kΩ 1/4W	J *
R1742	QRE141J-153Y	C R	15kΩ 1/4W	J *
R1743	QRE141J-103Y	C R	10kΩ 1/4W	J *
R1744	QRE141J-562Y	C R	5.6kΩ 1/4W	J *
R1745	QRE141J-103Y	C R	10kΩ 1/4W	J *

RESISTOR				
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R1746	QRE141J-682Y	C R	6.8kΩ 1/4W	J *
R1747	QRE141J-823Y	C R	82kΩ 1/4W	J *
R1748	QRE141J-104Y	C R	100kΩ 1/4W	J *
R1749	QRE141J-682Y	C R	6.8kΩ 1/4W	J *
R1750	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1751	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1752	QRE141J-472Y	C R	4.7kΩ 1/4W	J *
R1753	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1754	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1755	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1756	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1757	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1758	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1759	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1760	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1761	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1762	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1763	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1764	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1765	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1766	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1767	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1768	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1769	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1770	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1771	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1772	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1773	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1774	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1775	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1776	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1777	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1778	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1779	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1780	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1781	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1782	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1783	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1784	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1785	QRE141J-102Y	C R	10kΩ 1/4W	J *
R1786	QRE141J-102Y	C R		

△ Symbol No. Part No. Part Name Description Local

CAPACITOR

C1696-97	QETN1CH-476Z	E CAP.	47μF 16V	M	*
C1698	QETN1CH-2272	E CAP.	220μF 16V	M	*
C1701	QETN1CH-1082	E CAP.	1000μF 16V	M	*
C1702	QZC0120-1042	C CAP.	0.1μF 25V	Z	*
C1703	QETN1HM-1062	E CAP.	10μF 50V	M	*
C1704	QETN1AH-2272	E CAP.	220μF 10V	M	*
C1705	QZC0120-1042	C CAP.	0.1μF 25V	Z	*
C1706	QFLC1HJ-683Z	M CAP.	0.068μF 50V	J	*
C1707	QETN1HM-1052	E CAP.	1μF 50V	M	*
C1709	QZC31HJ-1802	C CAP.	18μF 50V	J	*
C1711	QZC0120-1042	C CAP.	0.1μF 25V	Z	*
C1712	QETN1AH-1072	E CAP.	100μF 10V	M	*
C1713	QZC31HJ-2202	C CAP.	22μF 50V	J	*
C1714	QZC31HK-1032	C CAP.	0.01μF 50V	K	*
C1715	QFLC1HJ-333Z	M CAP.	0.033μF 50V	J	*
C1716	QFV71HJ-1042	M CAP.	0.1μF 50V	J	*
C1718	QZC31HJ-1802	C CAP.	18μF 50V	J	*
C1720	QZC31HK-1022	C CAP.	1000μF 50V	K	*
C1721	QZC31HK-472Z	C CAP.	4700μF 50V	K	*
C1723	QENC1HM-1052	BP E CAP.	1μF 50V	M	*
C1761	QETN1CM-226	E CAP.	2200μF 16V	M	*
C1767	QZC31HJ-1512	C CAP.	150μF 50V	J	*
C1781	QZC0120-1042	C CAP.	0.1μF 25V	Z	*
C1807	QETN1CH-476Z	E CAP.	47μF 16V	M	*
C1809	QETN1HM-1062	E CAP.	10μF 50V	M	*
C1811	QETN1HM-1062	E CAP.	10μF 50V	M	*
C1812	QETN1CH-1072	E CAP.	100μF 16V	M	*
C1813	QETN1HM-1062	E CAP.	10μF 50V	M	*
C1814-15	QZC31HK-1032	C CAP.	0.01μF 50V	K	*
C1816	QETN1HM-226Z	E CAP.	22μF 50V	M	*
C1817	QZC31HK-1032	C CAP.	0.01μF 50V	K	*
C1818	QFLC1HJ-223Z	M CAP.	0.022μF 50V	J	*
C1819	QZC31HK-2212	C CAP.	220μF 50V	K	*
C1820-21	QZC31HJ-1502	C CAP.	15μF 50V	J	*
C1822	QFV71HJ-1042	M CAP.	0.1μF 50V	J	*
C1823-24	QZC31HK-1022	C CAP.	1000μF 50V	K	*
C1825	QZC31HK-2212	C CAP.	220μF 50V	K	*
C1826	QZC0120-1042	C CAP.	0.1μF 25V	Z	*
C1827	QETN1AH-4772	E CAP.	470μF 10V	M	*
C1828	QZC0120-1042	C CAP.	0.1μF 25V	Z	*
C1829	QFV71HJ-1042	M CAP.	0.1μF 50V	J	*
C1864-65	QETN1HM-1052	E CAP.	1μF 50V	M	*
C1866	QETN1CH-476Z	E CAP.	47μF 16V	M	*
C1904	QEM1HM-228	E CAP.	2200μF 50V	M	*
C1906	QETN1CM-1072	E CAP.	100μF 16V	M	*

COIL

L1001	QQL01BK-270Z	COIL	27μH	*
L1002-04	QQL01BK-8R2Z	COIL	8.2μH	*
L1005	QQL01BK-5R6Z	COIL	5.6μH	*
L1001-02	QQL01BK-4R7Z	COIL	4.7μH	*
L1104	QQL01BK-4R7Z	COIL	4.7μH	*
L1161	QQL01BZ-180Z	COIL	18μH	*
L1162	QQL01BZ-220Z	COIL	22μH	*
L1601-02	CELC005-7R5Z	CHOKE COIL	*	*
L1603	QQL01BK-100Z	COIL	10μH	*
L1701-02	QQL01BK-4R7Z	COIL	4.7μH	*
L1801	QQL01BK-3R3Z	COIL	3.3μH	*
L1802	QQL01BK-4R7Z	COIL	4.7μH	*

DIODE

D1101	15S133-T2	S1.DIODE	*
D1102-03	MT2J15A-T2	ZENER DIODE	*
D1104-06	15S133-T2	S1.DIODE	*
D1201	MT2J1A-7A-T2	ZENER DIODE	*

△ Symbol No. Part No. Part Name Description Local

DIODE

D1202-03	15S133-T2	S1.DIODE	*
D1204	MT2J10A-T2	ZENER DIODE	*
D1205-06	MT2J15A-T2	ZENER DIODE	*
D1453	15S133-T2	S1.DIODE	*
D1501-02	15S133-T2	S1.DIODE	*
D1611-12	MT2J33A-T2	ZENER DIODE	*
D1701-02	MA700A-T2	S1.DIODE	*
D1703	MT2J3.6A-T2	ZENER DIODE	*

TRANSISTOR

Q1101	2SC1015/YG/-T	SI.TRANSISTOR	*
Q1102	2SC1815/YG/-T	SI.TRANSISTOR	*
Q1163	2SC1815/YG/-T	SI.TRANSISTOR	*
Q201-02	2SC1815/YG/-T	SI.TRANSISTOR	*
Q203	2SC1015/YG/-T	SI.TRANSISTOR	*
Q204-05	DTC323TS-T	DIGI.TRANSISTOR	*
Q206	2SC1815/YG/-T	SI.TRANSISTOR	*
Q207	2SC1015/YG/-T	SI.TRANSISTOR	*
Q1208-09	2SC1815/YG/-T	SI.TRANSISTOR	*
Q1210-11	DTC323TS-T	DIGI.TRANSISTOR	*
Q1212	2SC1815/YG/-T	SI.TRANSISTOR	*
Q1214-15	DTC323TS-T	DIGI.TRANSISTOR	*
Q1451	DTC124ES-T	DIGI.TRANSISTOR	*
Q1452	2SC1815/YG/-T	SI.TRANSISTOR	*
Q1501	2SC1815/YG/-T	SI.TRANSISTOR	*
Q1502	2SC1015/YG/-T	SI.TRANSISTOR	*
Q1701-02	2SC1815/YG/-T	SI.TRANSISTOR	*
Q1703	DTC144ES-T	DIGI.TRANSISTOR	*
Q1761	DTC144ES-T	DIGI.TRANSISTOR	*
Q1762	2SC1015/YG/-T	SI.TRANSISTOR	*
Q1763-64	DTC323TS-T	DIGI.TRANSISTOR	*
Q1801	2SC1015/YG/-T	SI.TRANSISTOR	*
Q1802	DTC124ES-T	DIGI.TRANSISTOR	*
Q1806-07	2SC1815/YG/-T	SI.TRANSISTOR	*

I C

IC1101	TB1227AN	I.C.(DIGI-OTHER)	*
IC1201	TEA4616	I.C.(MONO-ANA)	*
IC1451	MC14538BCP	I.C.(DIGI-MOS)	*
IC1601	HSP3410B-PF-F7	I.C.(DIGI-OTHER)	*
IC1602	B44558	I.C.(MONO-ANA)	*
IC1611	TD4726M	I.C.(MONO-ANA)	*
IC1701	H37271H-252SP	I.C.	*
IC1702	L7BLROSE-MA	I.C.(MONO-ANA)	*
IC1703	AT24C1628KT4EN	I.C. (SERVICE)	*
IC1781	JLC1562H	I.C.(DIGI-MOS)	*
IC1801	TC4053B/P/N	I.C.	*
IC1802	CF70206	I.C.(DIGI-MOS)	*
IC1803	CF72417	I.C.(DIGI-MOS)	*

OTHERS

CN1001	QFG1216C1-25	FFC CONNECTOR	*
CN1009	QGB2004P2-25	HDF PLUG	*

△ Symbol No. Part No. Part Name Description Local

OTHERS

EF1601-02	CE42142-103Z	EMI FILTER	*
K1001-04	CE41433-001Z	BEADS CORE	*
TU1001	CEEK380-B01	TUNER	*
X1101	QA0X035-001Z	CRYSTAL	*
X1601	CE42546-001Z	CRYSTAL	*
X1701	CST8.00MW	CER. RESONATOR	*
X1801	CE41257-001Z	CRYSTAL	*

AUTO ASPECT MODULE P.W. BOARD ASS'Y ←
(SMC-W001A(U))

△ Symbol No. Part No. Part Name Description Local

HD001 SMC-W001A(U) AUTO ASPECT MODULE PWB

POWER / DEF P.W. BOARD ASS'Y ←
(SJF-2023A-U2)

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R2407	0R141C-392Y	NF R	3.92KΩ 1/4W F
R2409	0R141J-331Y	C R	3.30KΩ 1/4W J
R2411	0R141J-101Y	C R	100Ω 1/4W J
R2412	0R141J-471Y	C R	4700Ω 1/4W J
R2413	0R141J-103Y	C R	10KΩ 1/4W J
R2414	0R101GJ-2R2	NF R	2.2Ω 1W J
R2415	0R1211-2R2Y	C R	2.7Ω 1W J
R2416	0R141J-103Y	C R	10KΩ 1/4W J
R2417	0R016GJ-221Y	ON R	220Ω 1W J
R2418	0R141J-180Y	C R	1.00Ω 1W K
R2421	0R141J-272Y	C R	2.7KΩ 1W J
R2422	0R141J-563Y	C R	56KΩ 1/4W J
R2423	0R141J-104Y	C R	100KΩ 1/4W J
R2424	0R141J-103Y	C R	10KΩ 1/4W J
R2425	0R141J-124Y	C R	120KΩ 1/4W J
R2452	0R141J-683Y	C R	68KΩ 1/4W J
R2453	0R141J-224Y	C R	220Ω 1/4W J
R2461	0R141J-102Y	C R	1.0KΩ 1/4W J
R2462	0R141J-183Y	C R	1.0KΩ 1/4W J
R2463-64	0R141J-221Y	C R	220Ω 1/4W J
R2465	0R141J-331Y	C R	330Ω 1/4W J
R2466	0R141GJ-2R2X	C R	2.02Ω 1/4W J
R2467	0R141J-82Y	C R	8.2KΩ 1/4W J
R2468	0R141J-272Y	C R	2.7KΩ 1/4W J

△ Symbol No. Part No. Part Name Description Local

RESISTOR

R2469	0R141J-222Y	C R	2.2KΩ 1/4W J
R2470	0R141J-472Y	C R	4.7KΩ 1/4W J
R2471	0R141J-102Y	C R	1KΩ 1/4W J
R2472	0R141J-333Y	C R	33KΩ 1/4W J
R2474	0R141C-620Y	NF R	6.2KΩ 1/4W F
R2475	0R141J-102Y	C R	1KΩ 1/4W J
R2476	0R141J-562Y	C R	5.6KΩ 1/4W J
R2480	0R141J-102Y	NF R	12KΩ 1/4W F
R2481	0R141C-620Y	NF R	12KΩ 1/4W F
R2482	0R141C-680Y	NF R	6.8KΩ 1/4W F
R2483	0R141J-183Y	C R	18KΩ 1/4W J
R2484	0R141J-103Y	C R	10KΩ 1/4W J
R2485	0R141J-104Y	C R	10KΩ 1/2W J
R2486	0R141J-183Y	C R	10KΩ 1/2W J
R2487	0R141J-562Y	C R	10KΩ 1/2W J
R2488	0R141J-103Y	C R	10KΩ 1/2W J
R2489	0R141J-183Y	C R	10KΩ 1/2W J

IF MODULE P.W. BOARD ASS'

Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
R2920	QRE1411-682Y	C R	6.8k Ω 1/4W J *	
R2921	QRE1411-224Y	C R	22k Ω 1/4W J *	
R2931	QRE1211-321Y	C R	330k Ω 1/2W J *	
R2951	QRF0741-102	UNF R	1k Ω 7W J *	
R2953	QRG0161-330	OM R	330 μ F 1W J *	
R2954	QRL0293-120	OM R	120 μ F 2W J *	
R2955	QRL0293-100	OM R	100 μ F 2W J *	
R2956	QRE1411-103Y	C R	10k Ω 1/4W J *	
R2957	QRE1411-473Y	C R	47k Ω 1/4W J *	
R2958	QRL0293-473	OM R	47k Ω 2W J *	
R2959	QRE1411-562Y	C R	5.6k Ω 1/4W J *	
R2967	QRG0293-223	OM R	22k Ω 2W J *	
R2968	QRE1411-102Y	C R	1k Ω 1/4W J *	
R2969	QRE1411-220Y	C R	220 μ F 1W J *	
R2970	QRE1411-153Y	C R	15k Ω 1/4W J *	
R2971	QRE1411-470Y	C R	47k Ω 1/4W J *	
R2972	QRE1411-183Y	C R	18k Ω 1/4W J *	
R2981	QRE1211-101Y	C R	100k Ω 1/2W J *	
R2982	QRE1411-122Y	C R	1.2k Ω 1/4W J *	
R2983	QRE1411-104Y	C R	100k Ω 1/4W J *	
R2984	QRE1411-102Y	C R	1k Ω 1/4W J *	
R2985	QRE1411-104Y	C R	100k Ω 1/4W J *	
R2986	QRE1411-103Y	C R	10k Ω 1/4W J *	
△ R2991	QRZ0057-825	C R	8.2M Ω 1W J *	
C2401	QETN1CM-1072	E CAP.	100 μ F 16V M *	
C2402	QFLC1HJ-1522	M CAP.	1500 μ F 50V J *	
C2403	QETBV1W-105	E CAP.	1000 μ F 35V M *	
C2404	QETN1HM-1072	E CAP.	100 μ F 35V M *	
C2405	QETN1HM-1052	E CAP.	1 μ F 50V M *	
C2406	QCS32HJ-1802	C CAP.	180 μ F 500V J *	
C2407-08	QFLC1HJ-1042	M CAP.	0.1 μ F 50V J *	
C2409	QFLC2AJ-3932	M CAP.	0.039 μ F 100V J *	
C2410	QFLC2AJ-5632	M CAP.	0.056 μ F 100V J *	
C2411-12	QCB31HK-2212	C CAP.	220 μ F 50V K *	
C2413	QFV2HJ-1542	NF CAP.	0.15 μ F 50V J *	
C2415	QETN1HM-1062	E CAP.	10 μ F 50V M *	
C2451	QCS31HJ-5802	C CAP.	680 μ F 50V J *	
C2452	QCS31HJ-1212	C CAP.	120 μ F 50V J *	
C2453	QETN1CM-1072	E CAP.	100 μ F 16V M *	
C2456	QPF31HG-273	PP CAP.	0.027 μ F 50V G *	
C2463	QEW61EK-2252	E CAP.	2.2 μ F 25V K *	
C2464	QFV7HJ-1842	NF CAP.	0.18 μ F 50V J *	
C2465	QFV7HJ-9232	NF CAP.	0.082 μ F 50V J *	
C2466	QETN1CM-1082	E CAP.	1000 μ F 16V N *	
C2467	QCZ0120-1042	C CAP.	0.1 μ F 25V Z *	
C2468	QFLC1HJ-1032	M CAP.	0.01 μ F 50V J *	
C2469	QFLC1HJ-3932	M CAP.	0.039 μ F 50V J *	
C2470	QEM61HK-4752	E CAP.	4.7 μ F 50V K *	
C2480	QFLC1HJ-272Z	M CAP.	0.027 μ F 50V J *	
C2481	QETN1HM-1062	E CAP.	10 μ F 50V H *	
C2482	QETN1HM-1052	E CAP.	1 μ F 50V H *	
C2483	QCB31HK-1032	C CAP.	0.01 μ F 50V K *	
C2484	QFLC1HJ-1322	M CAP.	0.012 μ F 50V J *	
C2485	QCZ0120-1042	C CAP.	0.1 μ F 25V Z *	
C2486	QETN1CM-2272	C CAP.	220 μ F 16V M *	
C2509	QCB32HK-1022	C CAP.	100 μ F 500V K *	
△ C2510	QEW62CM-1052	E CAP.	1 μ F 160V M *	
△ C2521	QFZ0122-372	MPP CAP.	2700 μ F 1.8kV ±3%	
△ C2522	QFZ0117-1302	MPP CAP.	0.013 μ F 1.4kV ±2.5%	
△ C2523	QFP32GJ-273	PP CAP.	0.027 μ F 400V J *	
△ C2524-25	QFZ0119-524	MPP CAP.	0.62 μ F 200V ±3%	
C2526	QETN2EM-4752	E CAP.	4.7 μ F 250V M *	
C2527	QCB32HK-5612	C CAP.	560 μ F 500V K *	
C2528	QETM1CM-227	E CAP.	220 μ F 160V H *	
△ C2529	QFZ0128-393	MPP CAP.	0.039 μ F 400V ±3%	
△ C2531	QFZ0119-224	MPP CAP.	0.22 μ F 200V ±3% *	
△ C2532	QFZ0119-354	MPP CAP.	0.35 μ F 200V ±3% *	
C2534	QFM720K-583	M CAP.	0.068 μ F 200V K *	

Symbol No.	Part No.	Part Name	Description	Local
CAPACITOR				
C2536	QFLC1HJ-1222	M CAP.	1200 μ F 50V J *	
C2553-54	QETN1EM-1082	E CAP.	100 μ F 250V M *	
C2555	QETN2EM-1062	E CAP.	0.1 μ F 50V J *	
C2556	QFV7HJ-1042	NF CAP.	100 μ F 50V J *	
C2561	QCS31HJ-5602	C CAP.	550 μ F 50V J *	
C2571	QETQ1CM-1072	E CAP.	100 μ F 6.3V M *	
C2572	QETN1CM-4762	E CAP.	47 μ F 16V M *	
C2581	QETN1AH-2272	E CAP.	220 μ F 10V M *	
C2582	QETN2AH-1062	E CAP.	10 μ F 100V M *	
C2583	QEN1HM-1052	BP E CAP.	1 μ F 50V M *	
△ C2902	QZP908-472	C CAP.	4700 μ F AC250V M *	
△ C2904	QZP908-472	C CAP.	4700 μ F AC250V M *	
△ C2905	QE2016T-227	E CAP.	220 μ F 38V M *	
△ C2907	QCB32HK-103	C CAP.	0.01 μ F 500V K *	
C2908	QZQ122-391	C CAP.	350 μ F 2000V K *	
C2910	QZQ122-151	C CAP.	150 μ F 2000V K *	
C2911	QZQ122-221	C CAP.	220 μ F 2000V K *	
C2915	QETN1EM-1072	E CAP.	100 μ F 25V N *	
C2916	QCS31HJ-1012	C CAP.	100 μ F 50V J *	
C2917	QFLC1HJ-1022	M CAP.	100 μ F 50V J *	
C2918	QFLC1HJ-1042	M CAP.	0.1 μ F 50V J *	
C2919	QCB31HK-1022	C CAP.	100 μ F 50V K *	
C2920	QETN1HM-1052	E CAP.	1 μ F 50V M *	
C2921	QFLC1HJ-392Z	M CAP.	3900 μ F 50V J *	
△ C2934	QFZ0040-473	MH CAP.	0.047 μ F AC250V M *	
C2951	QZQ122-221	C CAP.	220 μ F 2000V K *	
C2952-53	QZQ132-1022	C CAP.	1000 μ F 500V K *	
C2954	QCS32HJ-1012	C CAP.	100 μ F 500V J *	
C2955	QCB32HK-3912	C CAP.	390 μ F 500V K *	
C2958	QZQ203-227	E CAP.	220 μ F 160V M *	
C2959	QZQ207-228	E CAP.	220 μ F 25V M *	
C2960	QZQ256-128	E CAP.	1200 μ F 10V M *	
C2961	QZQ257-228	E CAP.	2200 μ F -25V M *	
C2962	QE8B1WV-108	E CAP.	1000 μ F 35V M *	
C2964-66	QZQ120-1042	C CAP.	0.1 μ F 25V Z *	
C2967	QEHR1AN-2272	E CAP.	220 μ F 10V M *	
C2968	QEHC12AH-1082	E CAP.	1000 μ F 10V M *	
C2969	QETN1CM-1072	E CAP.	220 μ F 16V M *	
C2970	QCB31HK-3912	C CAP.	3900 μ F 500V K *	
C2971-72	QFV7HJ-1042	NF CAP.	0.1 μ F 50V J *	
C2976	QETN1CH-2272	E CAP.	220 μ F 16V M *	
C2981	QETN1AH-2272	E CAP.	220 μ F 10V M *	
△ C2992	QCZ9041-471	C CAP.	470 μ F AC400V K *	
△ C2993	QCZ9041-332	C CAP.	3300 μ F AC400V N *	
C2971	QFV7HJ-1042	NF CAP.	0.1 μ F 50V J *	
C2976	QETN1CH-2272	E CAP.	220 μ F 16V M *	
C2981	QETN1AH-2272	E CAP.	220 μ F 10V M *	
C2982	QETN1AH-1042	E CAP.	220 μ F 25V Z *	
C2983	QETN1CM-2272	C CAP.	0.012 μ F 50V J *	
C2984	QFLC1HJ-1322	M CAP.	0.012 μ F 50V J *	
C2985	QCZ0120-1042	C CAP.	0.1 μ F 25V Z *	
C2986	QETN1CM-2272	C CAP.	220 μ F 16V M *	
C2987	QCB31HK-1022	C CAP.	100 μ F 500V K *	
L2461	CE42567-002J	INJECTION COIL	*	
L2521	CELL011-002J	LINEARITY COIL	*	
L2522	CE42693-00111	CHOKE COIL	*	
L2551	QQL180-750	HEATER CHOKE	*	
L2901	QQL42AH-2R72	COIL	2.7 μ H *	
L2931	QQL401K-1002	CHOKE COIL	*	
L2951	QQL180-460	HEATER CHOKE	*	
D2402	IN4003-T2	SI DIODE	*	
D2404	MTZ19.1C-T2	ZENER DIODE	*	

Symbol No.	Part No.	Part Name	Description	Local
DIODE				
D2405	15S133-T2	SI DIODE	*	
D2406	MTZ122C-T2	ZENER DIODE	*	
D2407	15S133-T2	SI DIODE	*	
D2461	MTZ133-98-T2	ZENER DIODE	*	
D2462	MTZ112C-T2	ZENER DIODE	*	
D2463	MTZ122C-T2	ZENER DIODE	*	
D2465-66	MTZ122C-T2	ZENER DIODE	*	
D2521	BY033G-T3	SI DIODE	*	
D2524	BY228-20	SI DIODE	*	
D2551-52	BYW95B-20	SI DIODE	*	
D2553-55	BY033G-T3	SI DIODE	*	
△ D2901	DS158A50	DIODE BRIDGE	*	
D2904	BY033M-T3	SI DIODE	*	
D2951	RU48-1	SI DIODE	*	
D2952	BY033M-T3	SI DIODE	*	
D2953	BY033M-T3	SI DIODE	*	
D2981-86	15S133-T2	SI DIODE	*	
D2982	BYW95B-20	SI DIODE	*	
D2983	DS158A50	DIODE BRIDGE	*	
D2984	BY033M-T3	SI DIODE	*	
D2985	RU48-1	SI DIODE	*	
D2986	BY033M-T3	SI DIODE	*	
D2987	BY033M-T3	SI DIODE	*	
D2988	DS158A50	DIODE BRIDGE	*	
D2989	BY033M-T3	SI DIODE	*	
D2990	RU48-1	SI DIODE	*	
D2991	BY033M-T3	SI DIODE	*	
D2992	DS158A50	DIODE BRIDGE	*	
D2993	BY033M-T3	SI DIODE	*	
D2994	RU48-1	SI DIODE	*	
D2995	BY033M-T3	SI DIODE	*	
D2996	DS158A50	DIODE BRIDGE	*	
D2997	BY033M-T3	SI DIODE	*	
D2998	RU48-1	SI DIODE	*	
D2999	BY033M-T3	SI DIODE	*	
D3000	DS158A50	DIODE BRIDGE	*	
D3001	BY033M-T3	SI DIODE	*	
D3002	RU48-1	SI DIODE	*	
D3003	BY033M-T3	SI DIODE	*	
D3004	DS158A50	DIODE BRIDGE	*	
D3005	BY033M-T3	SI DIODE	*	
D3006	RU48-1	SI DIODE	*	
D3007-08	RS1010-1	RS1010-1	*	
D3009	RU48-1	SI DIODE	*	
D3100-11	RS1010-1	RS1010-1	*	
D3101-12	RS1010-1	RS1010-1	*	
D3102	RU48-1	SI DIODE	*	
D3103	RS1010-1	RS1010-1	*	
D3104	RU48-1	SI DIODE	*	
D3105	RS1010-1	RS1010-1	*	
D3106	RU48-1	SI DIODE	*	
D3107	RS1010-1	RS1010-1	*	
D3108	RU48-1	SI DIODE	*	
D3109	RS1010-1	RS1010-1	*	
D3110	RS1010-1	RS1010-1	*	
D3111	RS1010-1	RS1010-1	*	
D3112	RS1010-1	RS1010-1	*	

Symbol No.	Part No.	Part Name	Description	Local
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CAPACITOR

C3105	QETN1CH-476Z	E CAP.	47μF 16V	M *
C3106	NCF21EZ-104X	C CAP.	0.4μF 25V	Z *
C3108	QCS31HM-560Z	C CAP.	56μF 50V	J *
C3113	QC20324-102	C CAP.	1000μF 3000V	P *
C3122	QETN1HM-106Z	E CAP.	10μF 50V	H *
C3123	QETM2EH-336	E CAP.	33μF 250V	M *
C3125	NCB21HK-103X	C CAP.	0.01μF 50V	K *
C3301	QE20373-106Z	E CAP.	10μF 160V	H *
C3302	QETN1CH-107Z	E CAP.	100μF 16V	M *
C3303	QFLC1HJ-103Z	M CAP.	0.01μF 50V	J *
C3304	QETK1HM-335Z	E CAP.	3.3μF 50V	M *
C3305	NDC21HK-580X	C CAP.	5.0μF 50V	J *
C3306	NDC21HK-681X	C CAP.	680μF 50V	J *
C3307	QCS32HK-472Z	C CAP.	4700μF 500V	K *
C3308	NDC21HK-221X	C CAP.	220μF 50V	J *
C3309	QCS32HK-472Z	C CAP.	4700μF 500V	K *
C3310	QE20373-106Z	E CAP.	10μF 160V	H *
C3311	QETN1CH-107Z	E CAP.	100μF 16V	M *
C3312	QETN1HM-107Z	E CAP.	100μF 10V	H *
C3313	QETN1HM-337Z	E CAP.	330μF 16V	M *

COIL

L3101-03	QQL018K-181Z	COIL	180μH	*
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DIODE

D3121	DAN202K-X	DIODE ARRAY	*
D3123	MA3058/X-Y/X	ZENER DIODE	*
D3125-26	DAN202K-X	DIODE ARRAY	*
D3301-02	RH15-T3	SI.DIODE	*

TRANSISTOR

Q3101-03	2SC1815/YG-T	SI.TRANSISTOR	*
Q3104-06	2SC454A-LB	SI.TRANSISTOR	*
Q3153	2SC1815/YG-T	SI.TRANSISTOR	*
Q3154	2SC1015/YG-T	SI.TRANSISTOR	*
Q3301-02	2SC1815/YG-T	SI.TRANSISTOR	*
Q3303	2SC1015/YG-T	SI.TRANSISTOR	*
Q3304	2SA1837	SI.TRANSISTOR	*
Q3305	2SC4793	SI.TRANSISTOR	*

OTHERS

△ FE3319	QRZ9021-561	FUSI.RESISTOR	560 Ω 1W	J *
K3001	CE41432-001Z	BEADS CORE	*	
K3301-04	CE41493-001Z	CHOKE COIL	*	
△ SK3001	CE42446-001	C.R.T.SOCKET	*	
K3309-12	NRS402J-OROX	MG R	0.0Ω 1/10W	J *
K3314	NRS402J-OROX	MG R	0.0Ω 1/10W	J *
Y3307	NRS402J-OROX	MG R	0.0Ω 1/10W	J *

**FRONT CONTROL P.W. BOARD ASS'Y
(SJF-8023A-U2)**

Symbol No.	Part No.	Part Name	Description	Local
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RESISTOR

R8001-02	QRN141J-271Y	C R	2700 1/4W	J *
R8003	NRS402J-222X	MG R	2.2KΩ 1/10W	J *
R8004	NRS402J-472X	MG R	4.7KΩ 1/10W	J *
R8005-06	NRS402J-561X	MG R	560Ω 1/10W	J *
R8007	NRS402J-103X	MG R	10KΩ 1/10W	J *
R8008	NRS402J-682X	MG R	6.8KΩ 1/10W	J *
R8009	NRS402J-0R0X	MG R	0.0Ω 1/10W	J *
R8010	NRS402J-332X	MG R	3.3KΩ 1/10W	J *
R8012	NRS402J-103X	MG R	10KΩ 1/10W	J *
R8013	NRS402J-472X	MG R	4.7KΩ 1/10W	J *
R8015-16	NRS402J-103X	MG R	1KΩ 1/10W	J *
R8017	NRS402J-750X	MG R	750Ω 1/10W	J *
R8020-21	NRS402J-471X	MG R	470Ω 1/10W	J *
R8022	NRS402J-821X	MG R	820Ω 1/10W	J *
R8023-24	NRS402J-750	MG R	750Ω 1/10W	J *
R8024	NRS402J-562X	MG R	5.6KΩ 1/10W	J *
△ R8905	QRZ011-474	C R	470KΩ 1/2W	K *

CAPACITOR

C8001-02	NCB21HK-222X	C CAP.	2200pF 50V	K *
C8003	QETN1HM-106Z	E CAP.	10μF 50V	M *
C8004	NCF21EZ-104X	C CAP.	0.4μF 25V	Z *
C8005	QETN1CH-107Z	E CAP.	100μF 16V	M *
C8006-07	QE20446-108	E CAP.	1000μF 35V	M *
C8010-11	QE20446-108	C CAP.	4700pF 50V	K *
C8012	NCB21HK-472X	E CAP.	0.1μF 25V	Z *
C8474	QETN1HM-104Z	E CAP.	47μF 50V	K *
△ C8901	QETN1HM-476Z	E CAP.	47μF 50V	K *
△ C8901	QFZ9040-474	MF CAP.	0.47μF 50V	M *
△ C8901	QFZ9040-474	MF CAP.	0.47μFAC275V	M *

COIL

18001	CE41832-001	LEAD CORE	*
18002-03	QQL211K-586Y	COIL	5.6μH
18010-11	QQL211K-270Y	COIL	27μH
18012	CE41832-001	LEAD CORE	*

DIODE

08007	PI241J-04	C.D.S.	*
08008	DAN202K-X	DIODE ARRAY	*
08009	SLR-342M-T16	L.E.D.(GRN)	*
08010	SPR-39WNF	L.E.D.	*
08012	SLR-3420U-T16	L.E.D.(ORG)	*
08013	MA3058/X-M	ZENER DIODE	*
08014	SLR-342YY-T16	L.E.D.(YLW)	*
08015	MA152WK-X	SI.DIODE	*

TRANSISTOR

Q8001	2SA116Z/YG-T	SI.TRANSISTOR	*
Q8002-03	DTA144TS-A-T	DIGI.TRANSISTOR	*
Q8005-07	2SC1015/YG-T	SI.TRANSISTOR	*

IC

IC8001	GP1U281Q	I/F DETECT UNIT	*
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OTHERS

CH36548-001-E	L.E.D.HOLDER	*	
CH35921-404-H	CDS HOLDER	*	
CN8001	QGF1216C2-25	FFC CONNECTOR	*

**AV TERMINAL P.W. BOARD ASS'Y
(SJF0J022A-U2)**

Symbol No.	Part No.	Part Name	Description	Local
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RESISTOR

R0102-03	NRS402J-750X	MG R	75Ω 1/10W	J *
R0104	NRS402J-0R0X	MG R	0.0Ω 1/10W	J *
R0105	NRS402J-750X	MG R	75Ω 1/10W	J *
R0107	NRS402J-0R0X	MG R	0.0Ω 1/10W	J *
R0108	NRS402J-750X	MG R	75Ω 1/10W	J *
R0110	NRS402J-0R0X	MG R	0.0Ω 1/10W	J *
R0111-12	NRS402J-823X	MG R	82Ω 1/10W	J *
R0113	NRS402J-0R0X	MG R	0.0Ω 1/10W	J *

CAPACITOR

C0102	QETC1CH-477Z	E CAP.	470μF 16V	M *
C0103-05	QETN1HM-106Z	E CAP.	10μF 50V	M *
C0106	QETN1HM-105Z	E CAP.	1μF 50V	M *
C0107	NCB21HK-472X	C CAP.	4700pF 50V	K *
C0108	QETN1HM-105Z	E CAP.	1μF 50V	M *
C0109	NCB21HK-472X	C CAP.	4700pF 50V	K *
C0202	QETC1CH-477Z	E CAP.	470μF 16V	M *
C0203	QFLC1HJ-103Z	M CAP.	0.01μF 50V	J *
C0204-05	QETN1HM-105Z	E CAP.	1μF 50V	M *
C0206-07	NCB21HK-472X	C CAP.	4700pF 50V	K *

COIL

L0101-04	QQL211K-586Y	COIL	5.6μH	*
L0105	CE41832-001	LEAD CORE	*	
L0201-04	QQL211K-586Y	COIL	5.6μH	*
L0205	CE41832-001	LEAD CORE	*	

OTHERS

CN0008	CHA01R-15R-J	HDF CONNECTOR	*
CN0009	QGB2004N1-25	HDF CONNECTOR	*
J0001-02	CE40529-006	SCART CONNECTOR	*

AV28WT4EK
AV28WT4EKS

AV-28WT4EN / AV-28WT4ENS**PRINTED WIRING BOARD PARTS LIST****MAIN P.W. BOARD ASS'Y (SJF-1023A-U2)**

Symbol No.	Part No.	Part Name	Description	Local
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Symbol No.	Part No.	Part Name	Description	Local
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RESISTOR

R1001	QRE141J-474X	C R	470kΩ 1/4W J *	
R1002	QRE141J-104Y	C R	100kΩ 1/4W J *	
R1003-06	QRE141J-102Y	C R	1kΩ 1/4W J *	
R1101-02	QRE141J-391Y	C R	390Ω 1/4W J *	
R1103-04	QRE141J-102Y	C R	1kΩ 1/4W J *	
R1105	QRE141J-562Y	C R	5.6kΩ 1/4W J *	
R1106	QRE141J-102Y	C R	1kΩ 1/4W J *	
R1107	QRE141J-561Y	C R	560Ω 1/4W J *	

R1108	QRE141J-224Y	C R	220kΩ 1/4W J *	
R1109	QRE141J-273Y	C R	27kΩ 1/4W J *	
R1110	QRE141J-103Y	C R	10kΩ 1/4W J *	
R1111	QRE141J-472Y	C R	4.7kΩ 1/4W J *	
R1112-14	QRE141J-101Y	C R	100Ω 1/4W J *	
R1115-18	QRE141J-102Y	C R	1kΩ 1/4W J *	
R1119	QRE141J-333Y	C R	33kΩ 1/4W J *	
R1120	QRE141J-102Y	C R	1kΩ 1/4W J *	

R1121	QRE141J-472Y	C R	4.7kΩ 1/4W J *	
R1122	QRE141J-103Y	C R	10kΩ 1/4W J *	
R1125	QRE141J-471Y	C R	470Ω 1/4W J *	
R1165	QRE141J-102Y	C R	1kΩ 1/4W J *	
R1166	QRE141J-681Y	C R	680Ω 1/4W J *	
R1167	QRE141J-123Y	C R	12kΩ 1/4W J *	
R1169	QRE141J-123Y	C R	12kΩ 1/4W J *	
R1172	QRE141J-561Y	C R	560Ω 1/4W J *	

R1173	QRE141J-750Y	C R	75Ω 1/4W J *	
R1202	QRE141J-271X	C R	270Ω 1/4W J *	
R1203	QRE141J-101Y	C R	100Ω 1/4W J *	
R1204	QRG01GJ-101	OM R	100Ω 1W J *	
R1205	QRE141J-101Y	C R	100Ω 1/4W J *	
R1206	QRE141J-331Y	C R	330Ω 1/4W J *	
R1208	QRE141J-472Y	C R	4.7kΩ 1/4W J *	
R1209	QRE141J-152Y	C R	1.5kΩ 1/4W J *	

R1210	QRE141J-101Y	C R	100Ω 1/4W J *	
R1211	QRE141J-822Y	C R	8.2kΩ 1/4W J *	
R1212	QRE141J-101Y	C R	100Ω 1/4W J *	
R1213	QRE141J-682Y	C R	6.8kΩ 1/4W J *	
R1214-15	QRE141J-471Y	C R	470Ω 1/4W J *	
R1218-19	QRE141J-391Y	C R	390Ω 1/4W J *	
R1220-21	QRE141J-103Y	C R	10kΩ 1/4W J *	
R1222	QRE141J-221Y	C R	220Ω 1/4W J *	

R1223	QRE141J-750Y	C R	75Ω 1/4W J *	
R1224	QRE141J-331Y	C R	330Ω 1/4W J *	
R1225	QRE141J-151Y	C R	150Ω 1/4W J *	
R1226	QRE141J-101Y	C R	100Ω 1/4W J *	
R1228	QRE141J-182Y	C R	1.8kΩ 1/4W J *	
R1229	QRE141J-273Y	C R	27kΩ 1/4W J *	
R1230	QRE141J-333Y	C R	330Ω 1/4W J *	
R1231	QRE141J-182Y	C R	1.8kΩ 1/4W J *	

R1232	QRG01GJ-101	OM R	100Ω 1W J *	
R1233-34	QRE141J-152Y	C R	1.5kΩ 1/4W J *	
R1235-36	QRE141J-103Y	C R	10kΩ 1/4W J *	
R1237-38	QRE141J-471Y	C R	470Ω 1/4W J *	
R1242	QRE141J-823Y	C R	82kΩ 1/4W J *	
R1243	QRE141J-391Y	C R	390Ω 1/4W J *	
R1245	QRE141J-823Y	C R	82kΩ 1/4W J *	
R1246	QRE141J-391Y	C R	390Ω 1/4W J *	

R1247-48	QRE141J-103Y	C R	10kΩ 1/4W J *	
R1249	QRE141J-221Y	C R	220Ω 1/4W J *	
R1252	QR2901J-470	FUSE, RESISTOR	47 Ω 1/4W J *	
R1253	QRE141J-103Y	C R	10kΩ 1/4W J *	
R1254-55	QRE141J-183Y	C R	18kΩ 1/4W J *	

Symbol No.	Part No.	Part Name	Description	Local
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Symbol No.	Part No.	Part Name	Description	Local
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RESISTOR

R1256	QRE141J-103Y	C R	10kΩ 1/4W J *	
R1257	QRE141J-222Y	C R	2.2kΩ 1/4W J *	
R1260-61	QRE141J-750Y	C R	75Ω 1/4W J *	
R1262-63	QRE141J-103Y	C R	100Ω 1/4W J *	
R1264	QRE141J-561Y	C R	560Ω 1/4W J *	

R1268	QRE141J-221Y	C R	220Ω 1/4W J *	
R1401-02	QRE141J-103Y	C R	10kΩ 1/4W J *	
R1403	QRE141J-682Y	C R	6.8kΩ 1/4W J *	

R1404	QRE141J-183Y	C R	18kΩ 1/4W J *	
R1405	QRE141J-223Y	C R	22kΩ 1/4W J *	
R1406	QRE141J-102Y	C R	1kΩ 1/4W J *	
R1451	QRE141J-104Y	C R	100kΩ 1/4W J *	

R1452	QRE141J-152Y	C R	15kΩ 1/4W J *	
R1453	QRE141J-333Y	C R	33kΩ 1/4W J *	
R1455	QRE141J-184Y	C R	180kΩ 1/4W J *	
R1456	QRE141J-562Y	C R	5.6kΩ 1/4W J *	

R1457	QRE141J-223Y	C R	220Ω 1/4W J *	
R1458	QRE141J-104Y	C R	100kΩ 1/4W J *	
R1501	QRE141J-621Y	C R	620Ω 1/4W J *	
R1503	QRE141J-103Y	C R	100Ω 1/4W J *	
R1504	QRE141J-104Y	C R	100kΩ 1/4W J *	

R1510	QRE141J-392Y	C R	3.9kΩ 1/4W J *	
R1511	QRE141J-392Y	C R	3.9kΩ 1/4W J *	
R1601-02	QRE141J-102Y	C R	1kΩ 1/4W J *	
R1603	QRE141J-182Y	C R	1.8kΩ 1/4W J *	
R1604	QRE141J-333Y	C R	33kΩ 1/4W J *	

R1605	QRE141J-182Y	C R	1.8kΩ 1/4W J *	
R1606	QRE141J-122Y	C R	1.2kΩ 1/4W J *	
R1691	QRE141J-104Y	C R	100kΩ 1/4W J *	
R1695	QRE141J-331Y	C R	330Ω 1/4W J *	
R1701	QRE141J-103Y	C R	10kΩ 1/4W J *	

R1681-82	QRE141J-101Y	C R	100Ω 1/4W J *	
R1683-84	QRE141J-470V	C R	470Ω 1/4W J *	
R1685-86	QRE141J-152Y	C R	1.5kΩ 1/4W J *	
R1687-88	QRE141J-182X	C R	2.2Ω 1/4W J *	
R1691	QRE141J-122Y	C R	1.2kΩ 1/4W J *	

R1702	QRB069J-103	NET.R	10kΩ *	
R1703-04	QRE141J-102Y	C R	1kΩ 1/4W J *	
R1705	QRE141J-311Y	C R	330Ω 1/4W J *	
R1706	QRE141J-102Y	C R	1kΩ 1/4W J *	
R1707	QRE141J-331Y	C R	330Ω 1/4W J *	

R1708	
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△ Symbol No. Part No. Part Name Description Local

CAPACITOR

Part No.	Part Name	Description	Local
C1695	QETN1HH-106Z	E CAP.	10μF 50V M *
C1696-97	QETN1CH-476Z	E CAP.	47μF 16V M *
C1698	QETN1CH-227Z	E CAP.	220μF 16V M *
C1701	QETN1CH-108Z	E CAP.	1000μF 16V M *
C1702	QCZ0120-104Z	C CAP.	0.1μF 25V Z *
C1703	QETN1HH-106Z	E CAP.	10μF 50V M *
C1704	QETN1AH-227Z	E CAP.	220μF 10V M *
C1705	QCZ0120-104Z	C CAP.	0.1μF 25V Z *

Part No.	Part Name	Description	Local
C1706	QFLC1HJ-683Z	M CAP.	0.068μF 50V J *
C1707	QETN1HH-105Z	E CAP.	1μF 50V M *
C1709	QCB31HJ-180Z	C CAP.	18μF 50V J *
C1711	QCZ0120-104Z	C CAP.	0.1μF 25V Z *
C1712	QETN1AH-107Z	E CAP.	100μF 10V M *
C1713	QCS31HJ-220Z	C CAP.	220μF 50V J *
C1714	QCB31HK-103Z	C CAP.	0.01μF 50V K *
C1715	QFLC1HJ-333Z	M CAP.	0.033μF 50V J *

Part No.	Part Name	Description	Local
C1716	QVF71HJ-104Z	MF CAP.	0.1μF 50V J *
C1718	QCB31HJ-180Z	C CAP.	18μF 50V J *
C1720	QCB31HK-102Z	C CAP.	1000μF 50V K *
C1721	QCB31HK-472Z	C CAP.	4700μF 50V K *
C1723	QEN1CHM-105Z	BP E CAP.	1μF 50V M *
C1761	QETM1CH-228	E CAP.	2200μF 16V M *
C1767	QCS31HJ-151Z	C CAP.	150μF 50V J *
C1781	QCZ0120-104Z	C CAP.	0.1μF 25V Z *

Part No.	Part Name	Description	Local
C1807	QETN1CH-476Z	E CAP.	47μF 16V M *
C1809	QETN1HH-106Z	E CAP.	10μF 50V M *
C1811	QETN1HH-106Z	E CAP.	10μF 50V M *
C1812	QETN1CH-107Z	E CAP.	100μF 16V M *
C1813	QETN1HH-106Z	E CAP.	10μF 50V M *
C1814-15	QCB31HK-103Z	C CAP.	0.01μF 50V K *
C1816	QETN1HH-262Z	E CAP.	22μF 50V M *
C1817	QCB31HK-103Z	C CAP.	0.01μF 50V K *

Part No.	Part Name	Description	Local
C1818	QFLC1HJ-232Z	M CAP.	0.022μF 50V J *
C1819	QCB31HK-221Z	C CAP.	220μF 50V K *
C1820-21	QCB31HJ-150Z	C CAP.	15μF 50V J *
C1822	QVF71HJ-104Z	MF CAP.	0.1μF 50V J *
C1823-24	QCB31HK-102Z	C CAP.	1000μF 50V K *
C1825	QCB31HK-221Z	C CAP.	220μF 50V K *
C1826	QCZ0120-104Z	C CAP.	0.1μF 25V Z *
C1827	QETN1AH-477Z	E CAP.	470μF 10V M *

Part No.	Part Name	Description	Local
C1828	QCZ0120-104Z	C CAP.	0.1μF 25V Z *
C1829	QVF71HJ-104Z	MF CAP.	0.1μF 50V J *
C1854-65	QETN1HH-105Z	E CAP.	1μF 50V M *
C1866	QETN1CH-476Z	E CAP.	47μF 16V M *
C1904	QETN1HH-228	E CAP.	2200μF 50V M *
C1906	QETN1HH-107Z	E CAP.	100μF 16V M *

COIL

Part No.	Part Name	Description	Local
L1001	QQL01BK-270Z	COIL	27μH *
L1002-04	QQL01BK-882Z	COIL	8.2μH *
L1005	QQL01BK-SR6Z	COIL	5.6μH *
L1101-02	QQL01BK-482Z	COIL	4.7μH *
L1103	QQL01BK-330Z	COIL	3.9μH *
L1104	QQL01BK-4R7Z	COIL	4.7μH *
L1161	QQL01BK-180Z	COIL	18μH *
L1162	QQL01BK-220Z	COIL	22μH *

DIODE

Part No.	Part Name	Description	Local
D1101	15S133-T2	SI.DIODE	*

△ Symbol No. Part No. Part Name Description Local

DIODE

Part No.	Part Name	Description	Local
D1102-03	MT2J5.1B-T2	ZENER DIODE	*
D1104-06	15S133-T2	SI.DIODE	*
D1201	MT2A4.7A-T2	ZENER DIODE	*
D1202-03	15S133-T2	SI.DIODE	*
D1204	MT2J10A-T2	ZENER DIODE	*
D1205-06	MT2J15A-T2	ZENER DIODE	*
D1453	15S133-T2	SI.DIODE	*
D1501-02	15S133-T2	SI.DIODE	*

TRANSISTOR

Part No.	Part Name	Description	Local
Q101	2SC1015/YG-T	SI.TRANSISTOR	*
Q102	2SC1815/YG-T	SI.TRANSISTOR	*
Q103	DTC124ES-A	DIGI.TRANSISTOR	*
Q1163	2SC1815/YG-T	SI.TRANSISTOR	*
Q1201-02	2SC1815/YG-T	SI.TRANSISTOR	*
Q1204-05	DTC323TS-T	DIGI.TRANSISTOR	*
Q1206	2SC1815/YG-T	SI.TRANSISTOR	*

IC

Part No.	Part Name	Description	Local
IC1101	TB1227AN	I.C.(DIGI-OTHER)	*
IC1203	TEA6416	I.C.(MONO-ANA)	*
IC1451	ML14538BCP	I.C.(DIGI-MOS)	*
IC1601	MS37410B-F7	I.C.(DIGI-OTHER)	*
IC1602	BAA4558	I.C.(MONO-ANA)	*
IC1611	TOA7263M	I.C.(MONO-ANA)	*
IC1701	R37271M-252SP	I.C.	*
IC1702	L78LROSE-MA	I.C.(MONO-ANA)	*

(SERVICE)

IC1281 JL1C1562N I.C.(DIGI-MOS)

IC1801 TC4053BP/NV I.C.

IC1802 CF70206 I.C.(DIGI-MOS)

IC1803 CF72417 I.C.(DIGI-MOS)

△ Symbol No. Part No. Part Name Description Local

OTHERS

Part No.	Part No.	Part Name	Description	Local
CH1001	QGF1216C1-25	FFC CONNECTOR	*	
CH1009	Q5520D4P-25	HDF PLUG	*	
EF1601-02	CEA2142-103Z	EMI FILTER	*	
K1001-04	CE41433-001Z	BEADS CORE	*	
TU1001	CEEK481-804	TUNER	*	
X1101	QAOX0205-001Z	CRYSTAL	*	
X1601	CEA2546-001Z	CRYSTAL	*	
X1701	CST8.00MTW	CER.RESONATOR	*	

IF MODULE PWB(As follows) ←

→ AUTO ASPECT MODULE PWB(As follows) ←

AUTO ASPECT MODULE P.W. BOARD ASS'Y
(SMC-W001A(U))

△ Symbol No. Part No. Part Name Description Local

M0001 SMC-W001A(U) AUTO ASPECT MODULE PWB

IF MODULE P.W. BOARD ASS'Y (SJF0F021A-U2) ←

→ △ Symbol No. Part No. Part Name Description Local

HD1003 SJF0F021A-U2 IF MODULE PWB

POWER / DEF P.W. BOARD ASS'Y

(SJF-2023A-U2)

Refer to PARTS LIST in page 43 for this P.W. board.

CRT SOCKET P.W. BOARD ASS'Y (SJF-3022A-U2)

Refer to PARTS LIST in page 45 for this P.W. board.

FRONT CONTROL P.W. BOARD ASS'Y

(SJF-8023A-U2)

Refer to PARTS LIST in page 46 for this P.W. board.

AV TERMINAL P.W. BOARD ASS'Y

(SJF0J022A-U2)

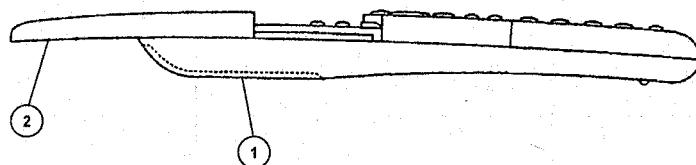
Refer to PARTS LIST in page 47 for this P.W. board.

AV-28WT4EN
AV-28WT4ENS

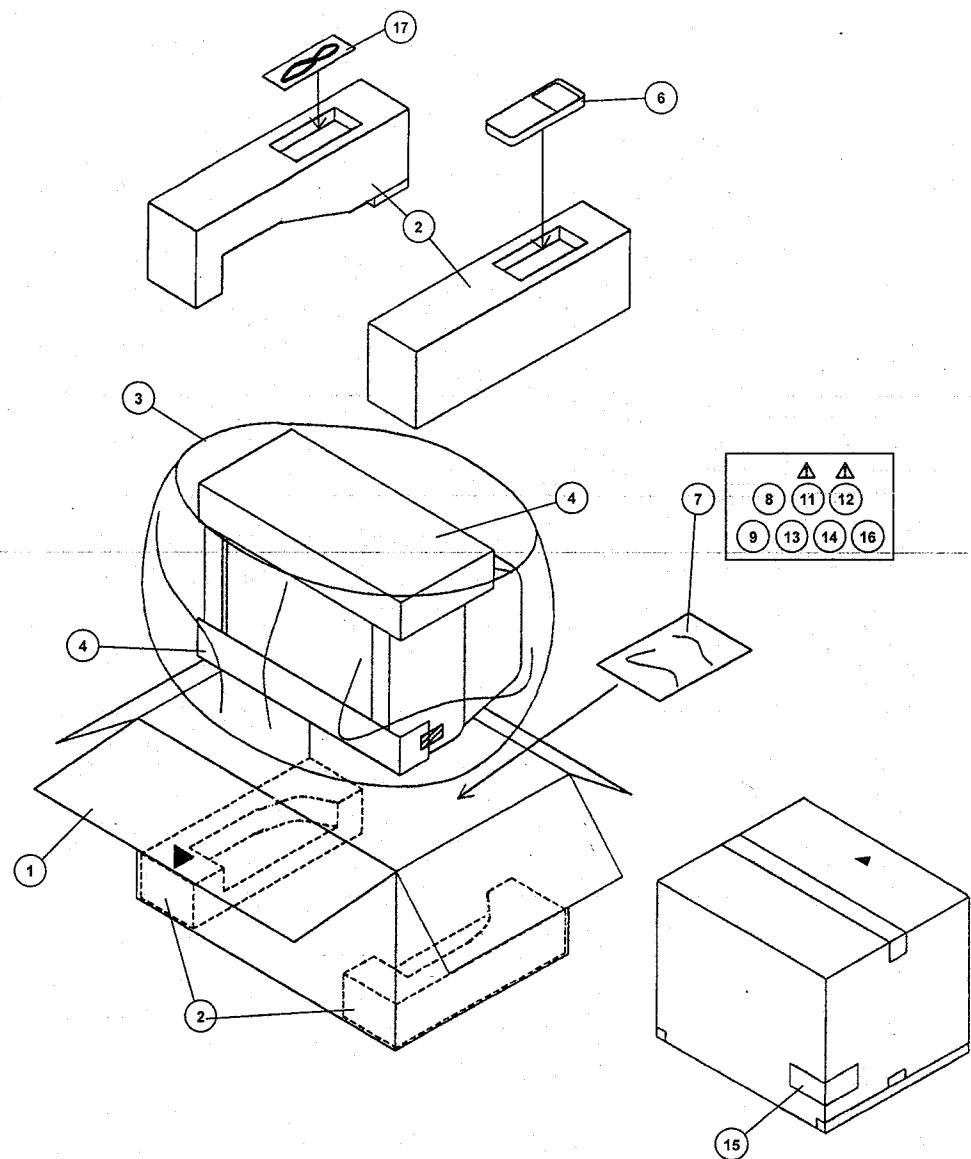
REMOTE CONTROL UNIT PARTS LIST

Ref.No.	Part No.	Part Name	Description	Local
RM-C794-1E				
1	BGV110201A	BATTERY COVER		
2	BGV110302A	SLIDE COVER		

RM-C795-1E				
1	BGV110201A	BATTERY COVER		
2	BGV110303A	SLIDE COVER		



PACKING



AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

PACKING PARTS LIST

AV-28WT4EK

1	AEM1002-067-E	PACKING CASE		*
2	LC10522-002A-U	CUSHION ASSY	4pcs in 1set	*
3	AEM1004-009-E	SET COVER		*
4	CP40193-009-E	CUSHION SHEET		*
5	CP40193-010-E	CUSHION SHEET		*
6	RM-C794-1E	REMOCON UNIT		*
7	AEM3021-001-E	POLY BAG		*
8	BT-54013-1E	WARRANTY CARD		*
△ 11	LCT0406-001A-U	INST BOOK		*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
15	AEM1039-033-E	EURO LABEL		*
16	LCT0065-001A-U	WARNING SHEET		*
17	QAM0167-001	RF CABLE		*

AV-28WT4EKS

1	AEM1002-067-E	PACKING CASE		*
2	LC10522-002A-U	CUSHION ASSY	4pcs in 1set	*
3	AEM1004-009-E	SET COVER		*
4	CP40193-009-E	CUSHION SHEET		*
5	CP40193-010-E	CUSHION SHEET		*
6	RM-C794-1E	REMOCON UNIT		*
7	AEM3021-001-E	POLY BAG		*
8	BT-54013-1E	WARRANTY CARD		*
△ 11	LCT0406-001A-U	INST BOOK		*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
15	AEM1039-034-E	EURO LABEL		*
16	LCT0065-001A-U	WARNING SHEET		*
17	QAM0167-001	RF CABLE		*

AV-28WT4EN

1	AEM1002-067-E	PACKING CASE		*
2	LC10522-002A-U	CUSHION ASSY	4pcs in 1set	*
3	AEM1004-009-E	SET COVER		*
4	CP40193-009-E	CUSHION SHEET		*
5	CP40193-010-E	CUSHION SHEET		*
6	RM-C795-1E	REMOCON UNIT		*
7	AEM3021-001-E	POLY BAG		*
8	BT-54013-1E	WARRANTY CARD		*
9	28WT4ENS-HSAE	S. DIAGRAM	ONLY ITALY(SERVICE)	
△ 11	LCT0407-001A-U	INST BOOK	For ENG/GER/FRA/NED/ITA/ESP	*
12	LCT0408-001A-U	INST BOOK	For FIN/NOR/DEN/SWE/POR	*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
14	AEM1045-001-E	X RAY CARD		*
15	AEM1039-035-E	EURO LABEL		*
16	LCT0065-001A-U	WARNING SHEET		*
17	QAM0167-001	RF CABLE		*

AV-28WT4ENS

1	AEM1002-067-E	PACKING CASE		*
2	LC10522-002A-U	CUSHION ASSY	4pcs in 1set	*
3	AEM1004-009-E	SET COVER		*
4	CP40193-009-E	CUSHION SHEET		*
5	CP40193-010-E	CUSHION SHEET		*
6	RM-C795-1E	REMOCON UNIT		*
7	AEM3021-001-E	POLY BAG		*
8	BT-54013-1E	WARRANTY CARD		*
9	28WT4ENS-HSAE	S. DIAGRAM	ONLY ITALY(SERVICE)	
△ 11	LCT0407-001A-U	INST BOOK	For ENG/GER/FRA/NED/ITA/ESP	*
12	LCT0408-001A-U	INST BOOK	For FIN/NOR/DEN/SWE/POR	*
13	BT-20066A-E	ADDRESS CARD	(1295)	*
14	AEM1045-001-E	X RAY CARD		*
15	AEM1039-036-E	EURO LABEL		*
16	LCT0065-001A-U	WARNING SHEET		*
17	QAM0167-001	RF CABLE		*

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1. SAFETY

The components identified by the Δ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufacturers recommended parts.

2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1) Input signal :PAL Colour bar signal
- (2) Setting positions of each knob/button and variable resistor :Original setting position when shipped
- (3) Internal resistance of tester :DC 20k Ω /V
- (4) Oscilloscope sweeping time :H \Rightarrow 20 μ s/div
:V \Rightarrow 5mS/div
:Others \Rightarrow Sweeping time is specified
- (5) Voltage values :All DC voltage values
* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3. INDICATION OF PARTS SYMBOL [EXAMPLE]

- In the PW board :R1209-R209

4. INDICATIONS ON THE CIRCUIT DIAGRAM

(1) Resistors

● Resistance value

- | | |
|---------|-------------|
| No unit | : Ω |
| K | :K Ω |
| M | :M Ω |

● Rated allowable power

- | | |
|---------------|---------------|
| No indication | :1/4[W] |
| Others | :As specified |

● Type

- | | |
|---------------|----------------------------|
| No indication | :Carbon resistor |
| OMR | :Oxide metal film resistor |
| MFR | :Metal film resistor |
| MPR | :Metal plate resistor |
| UNFR | :Uninflammable resistor |
| FR | :Fusible resistor |

* Composition resistor 1/2[W] is specified as 1/2S or Comp.

(2) Capacitors

● Capacitance value

- | | |
|-------------|-----------|
| 1 or higher | : μ F |
| less than 1 | : μ F |

● Withstand voltage

- | | |
|---------------|----------|
| No indication | :DC50[V] |
|---------------|----------|

- | | |
|--------------|---------------------------|
| AC indicated | :AC withstand voltage [V] |
| Others | :DC withstand voltage [V] |

● Electrolytic Capacitors

- | | |
|----------------|----------------------------------------------------|
| 47/50[Example] | :Capacitance value [μ F]/withstand voltage[V] |
|----------------|----------------------------------------------------|

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

CONTENTS

SEMICONDUCTOR SHAPES 2-2

BLOCK DIAGRAM 2-3

CIRCUIT DIAGRAMS

MAIN PWB CIRCUIT DIAGRAM 2-5

POWER/DEF PWB CIRCUIT DIAGRAM 2-9

IF MODULE PWB CIRCUIT DIAGRAM 2-11

FRONT CONTROL PWB CIRCUIT DIAGRAM 2-13

CRT SOCKET PWB CIRCUIT DIAGRAM 2-15

AV TERMINAL PWB CIRCUIT DIAGRAM 2-17

PATTERN DIAGRAMS

MAIN PWB PATTERN 2-19

POWER/DEF PWB PATTERN 2-21

CRT SOCKET PWB PATTERN 2-23

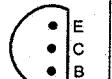
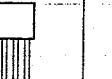
FRONT CONTROL PWB PATTERN 2-23

AV TERMINAL PWB PATTERN 2-25

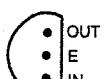
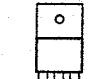
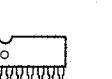
IF MODULE PWB PATTERN 2-26

SEMICONDUCTOR SHAPES

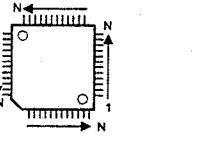
TRANSISTOR

BOTTOM VIEW	FRONT VIEW	TOP VIEW	CHIP TR
			

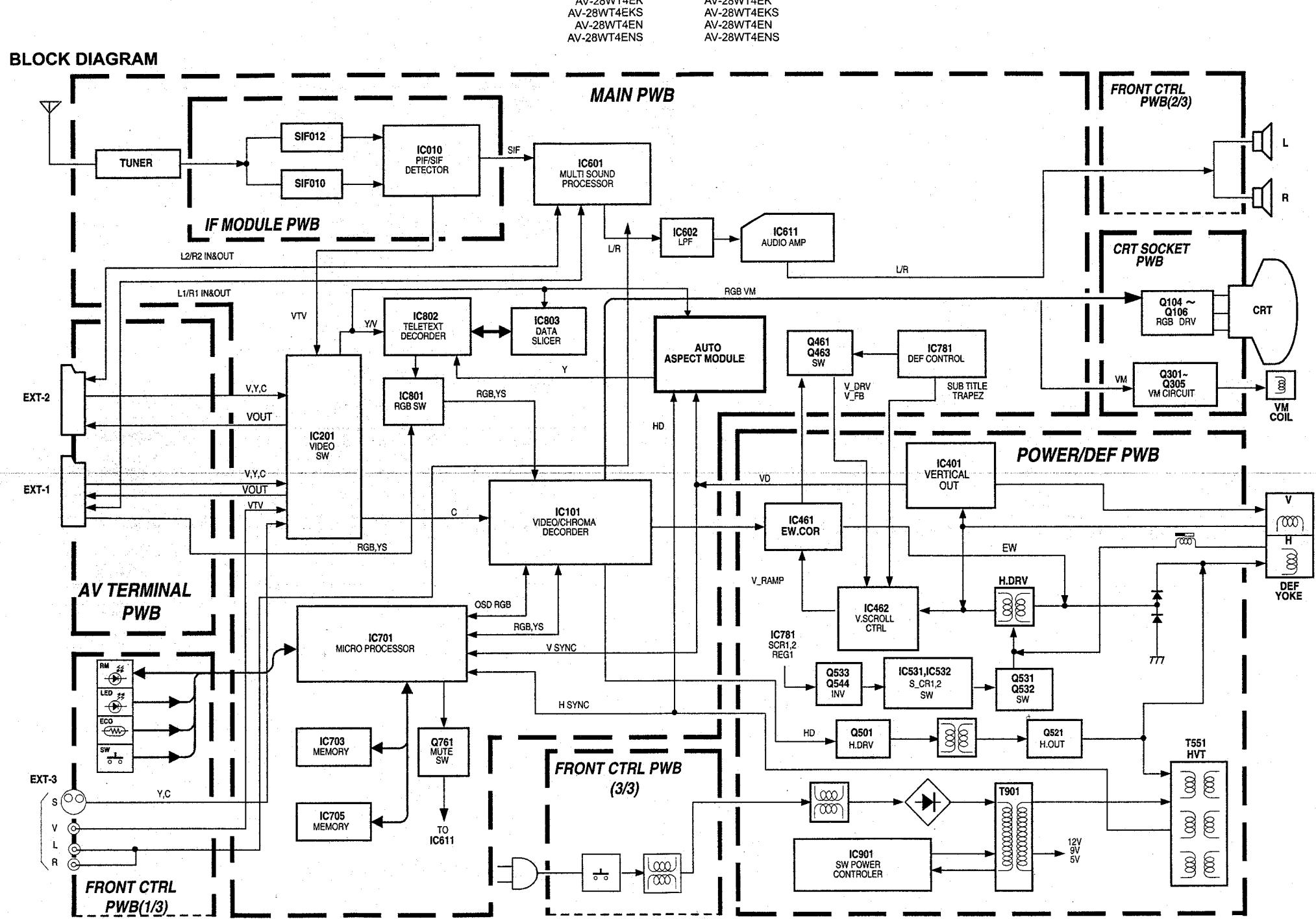
IC

BOTTOM VIEW	FRONT VIEW	TOP VIEW
		

CHIP IC

TOP VIEW


BLOCK DIAGRAM

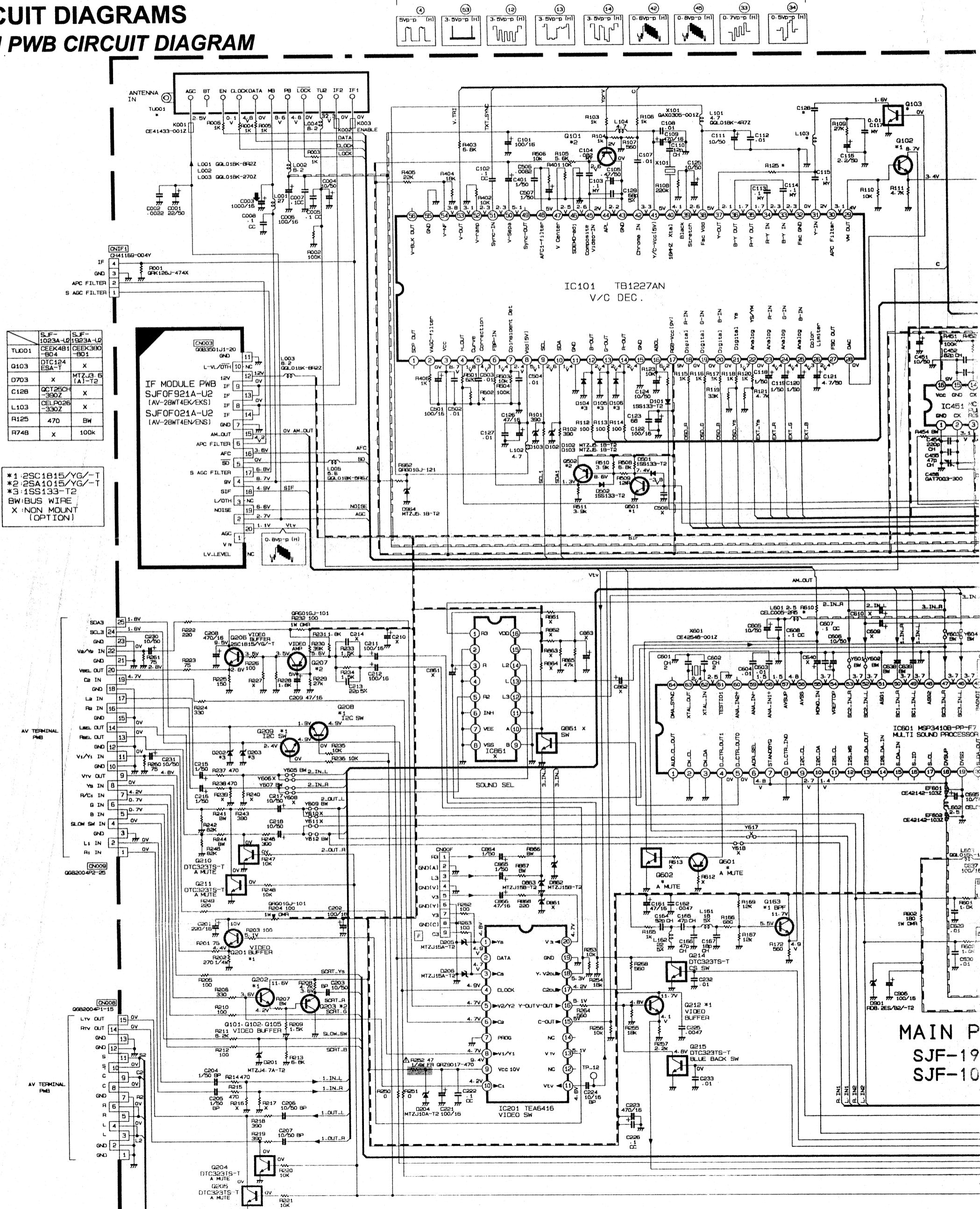


AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

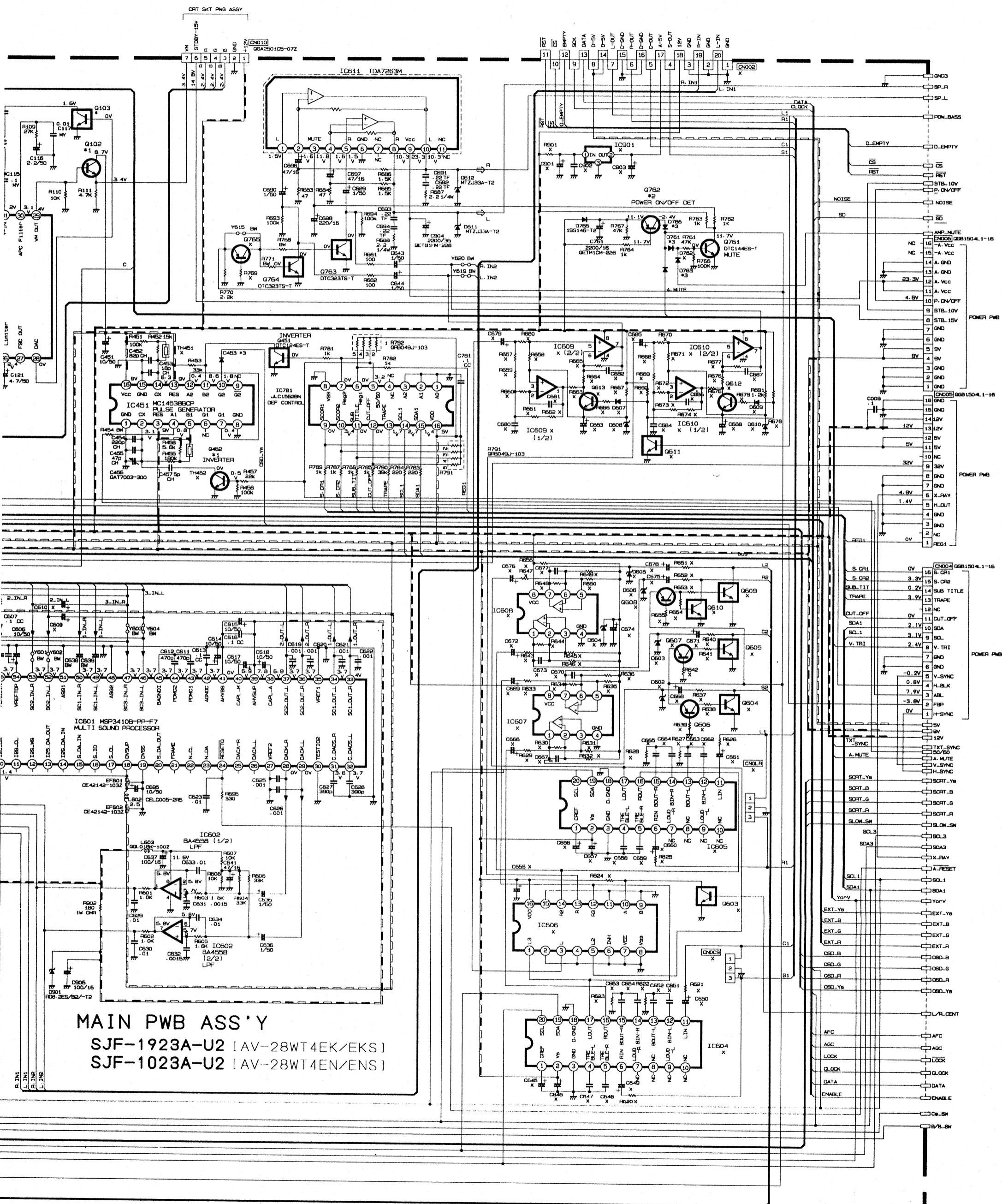
AV-28W

CIRCUIT DIAGRAMS

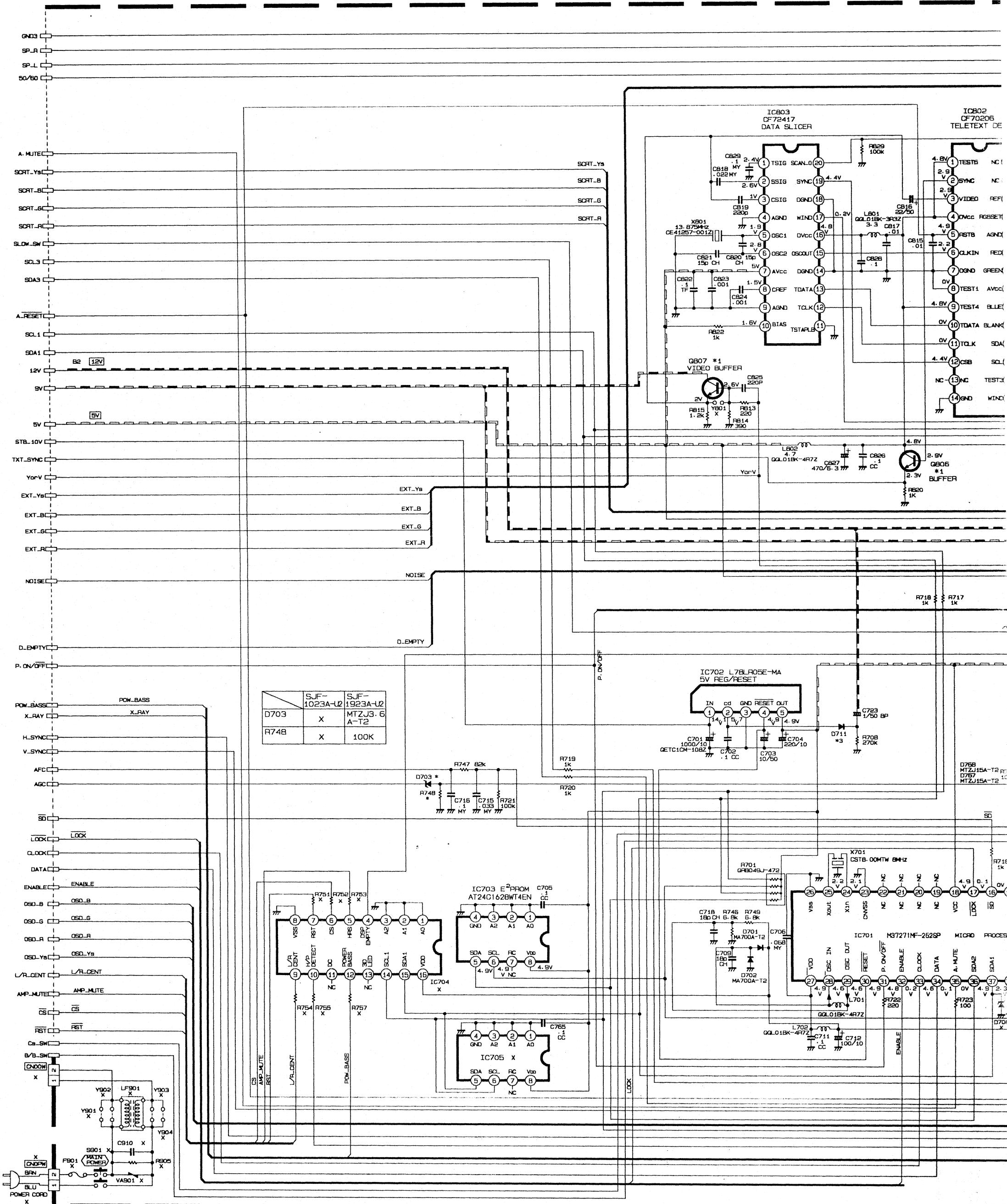
MAIN PWB CIRCUIT DIAGRAM



**AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS**

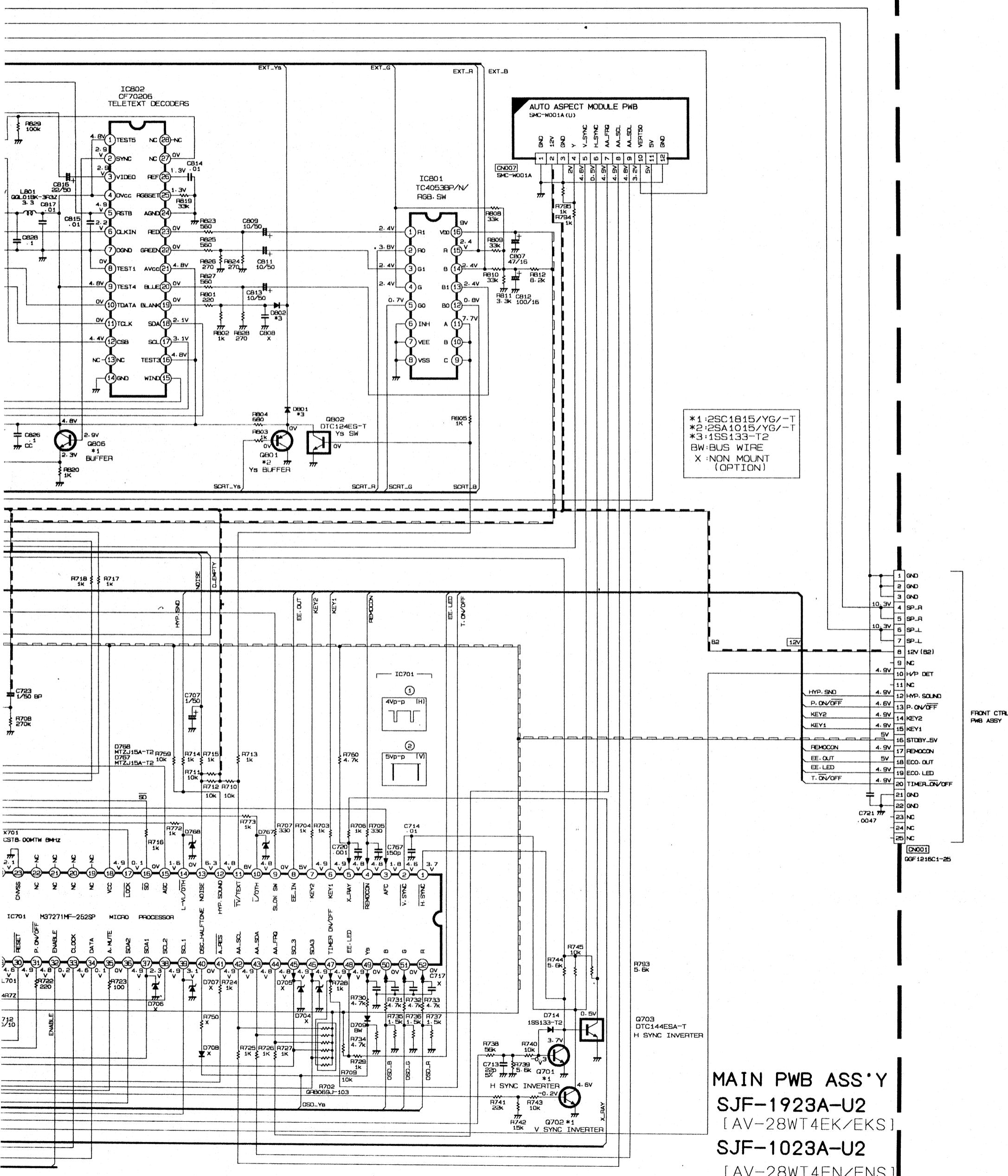


AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS



T4EK
4EKS
T4EN
4ENS

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS



AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

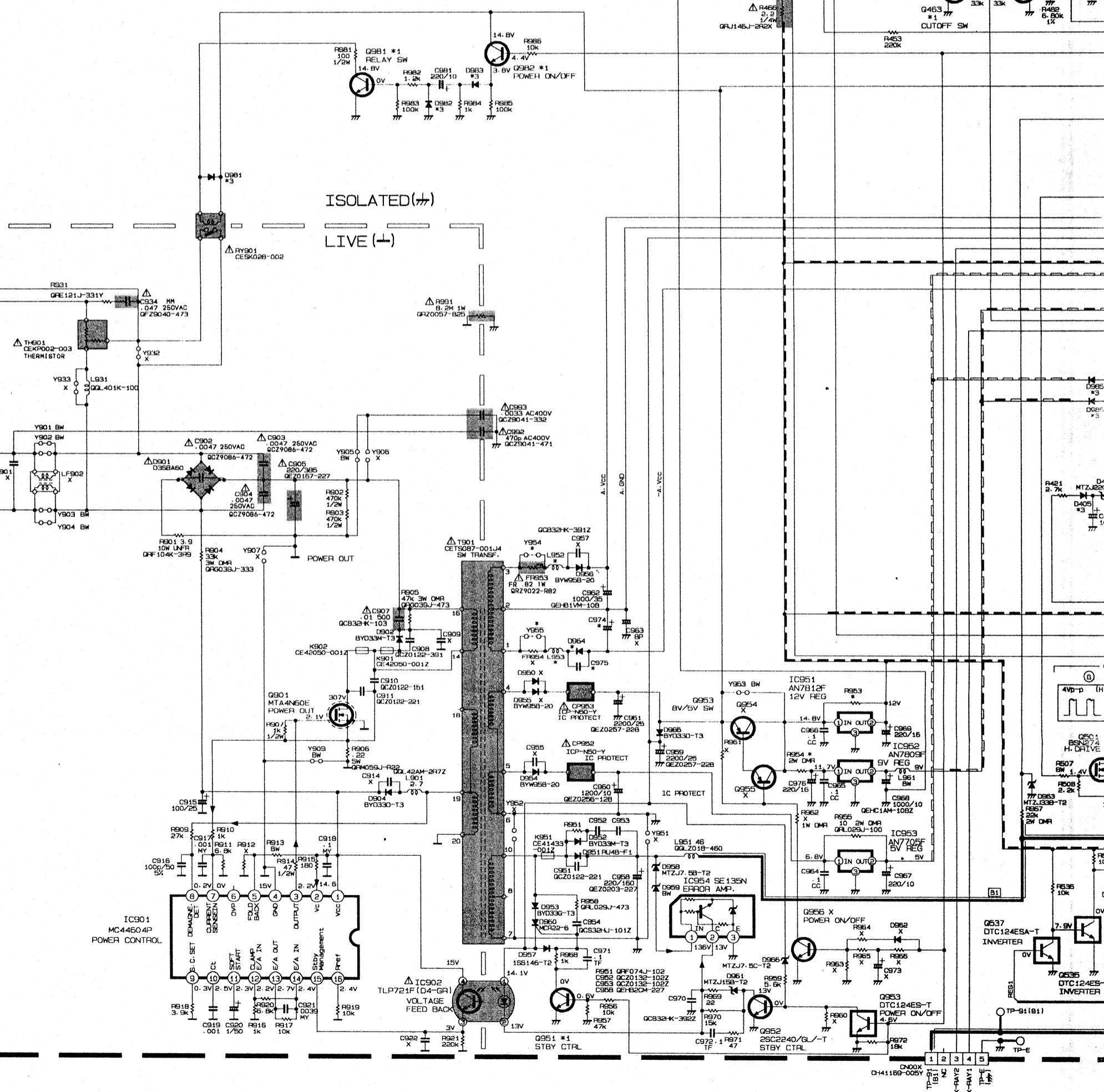
AV-28W

POWER/DEF PWB CIRCUIT DIAGRAM

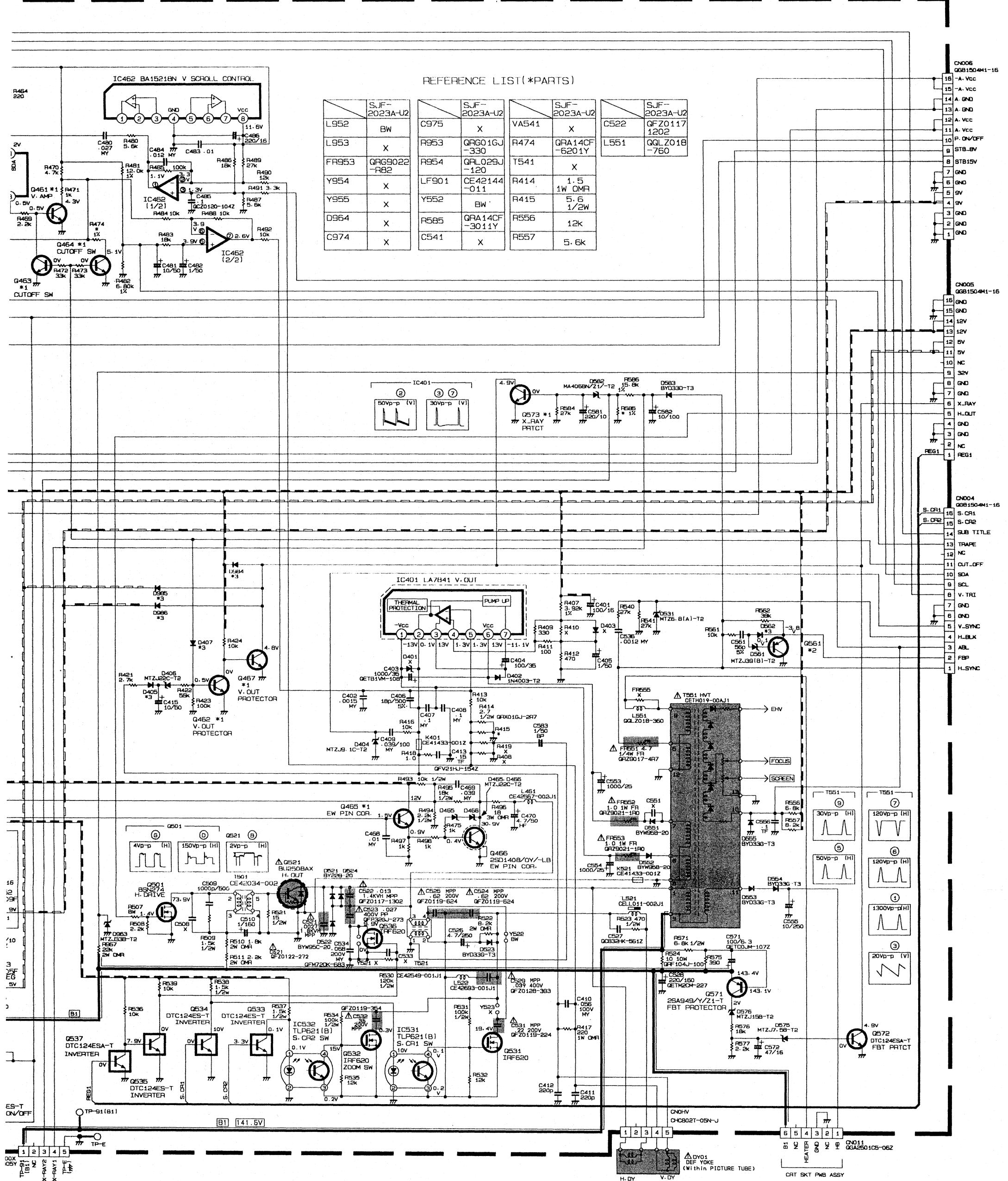
POWER/DEF PWB ASS'Y
SJF-2023A-U2

NOTE

*1:2SC1815/YG/-T
 *2:2SA1015/YG/-T
 *3:1SS133-T2
 BW:BUS WIRE
 X:NON MOUNT
 (OPTION)



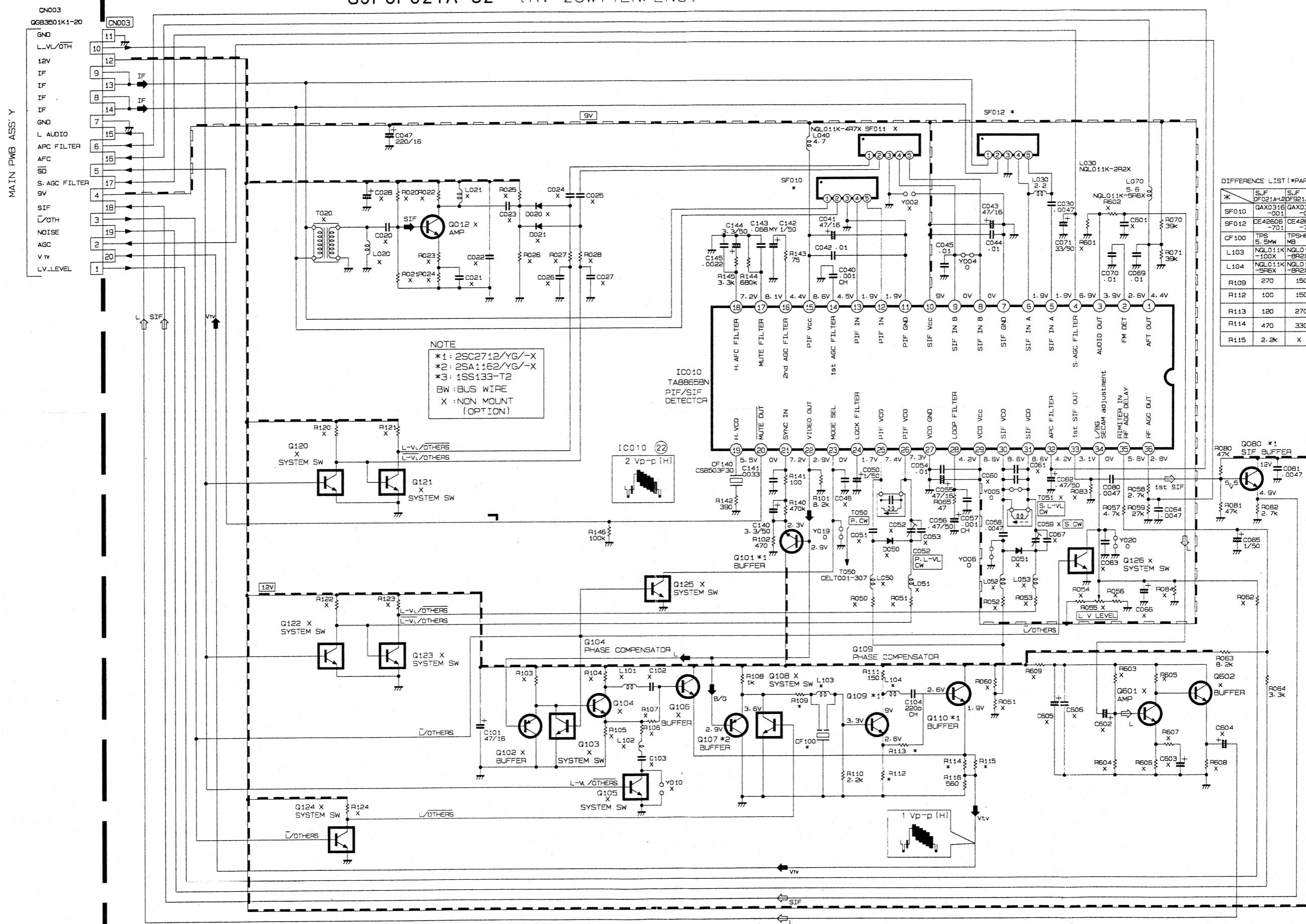
**AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS**



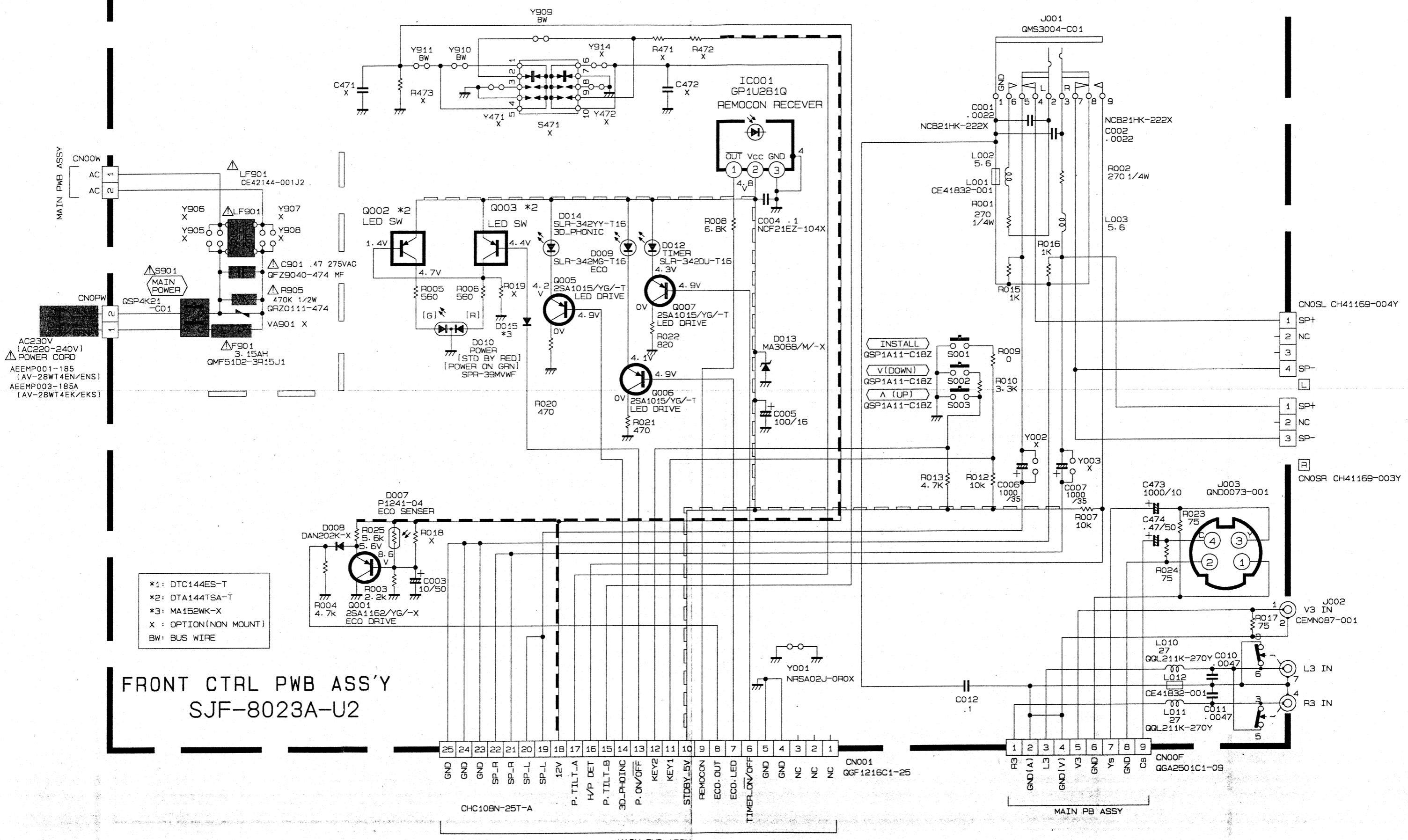
AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

IF MODULE PWB CIRCUIT DIAGRAM

IF MODULE PWB SJF0F921A-U2 [AV-28WT4EK/EKS]
SJF0F021A-U2 [AV-28WT4EN/ENS]



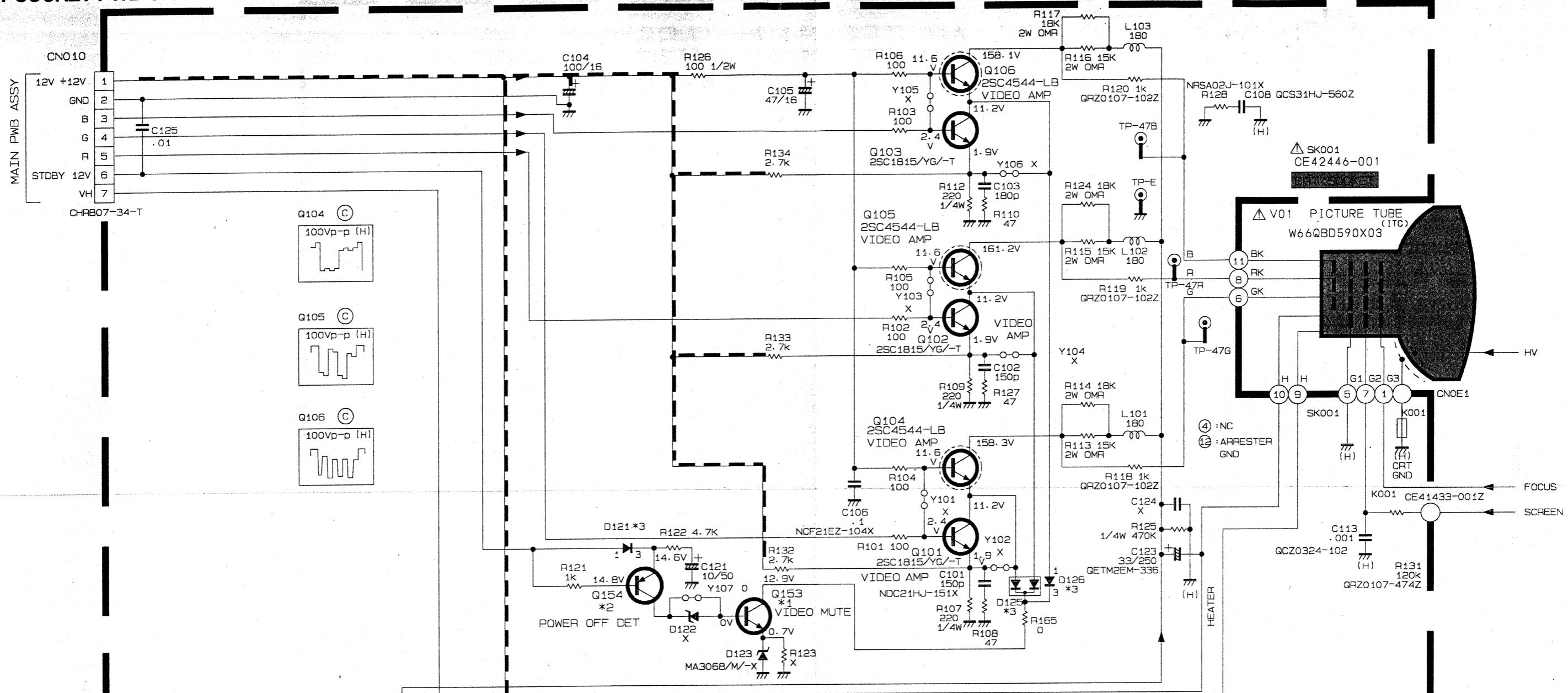
FRONT CONTROL PWB CIRCUIT DIAGRAM



AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

CRT SOCKET PWB CIRCUIT DIAGRAM



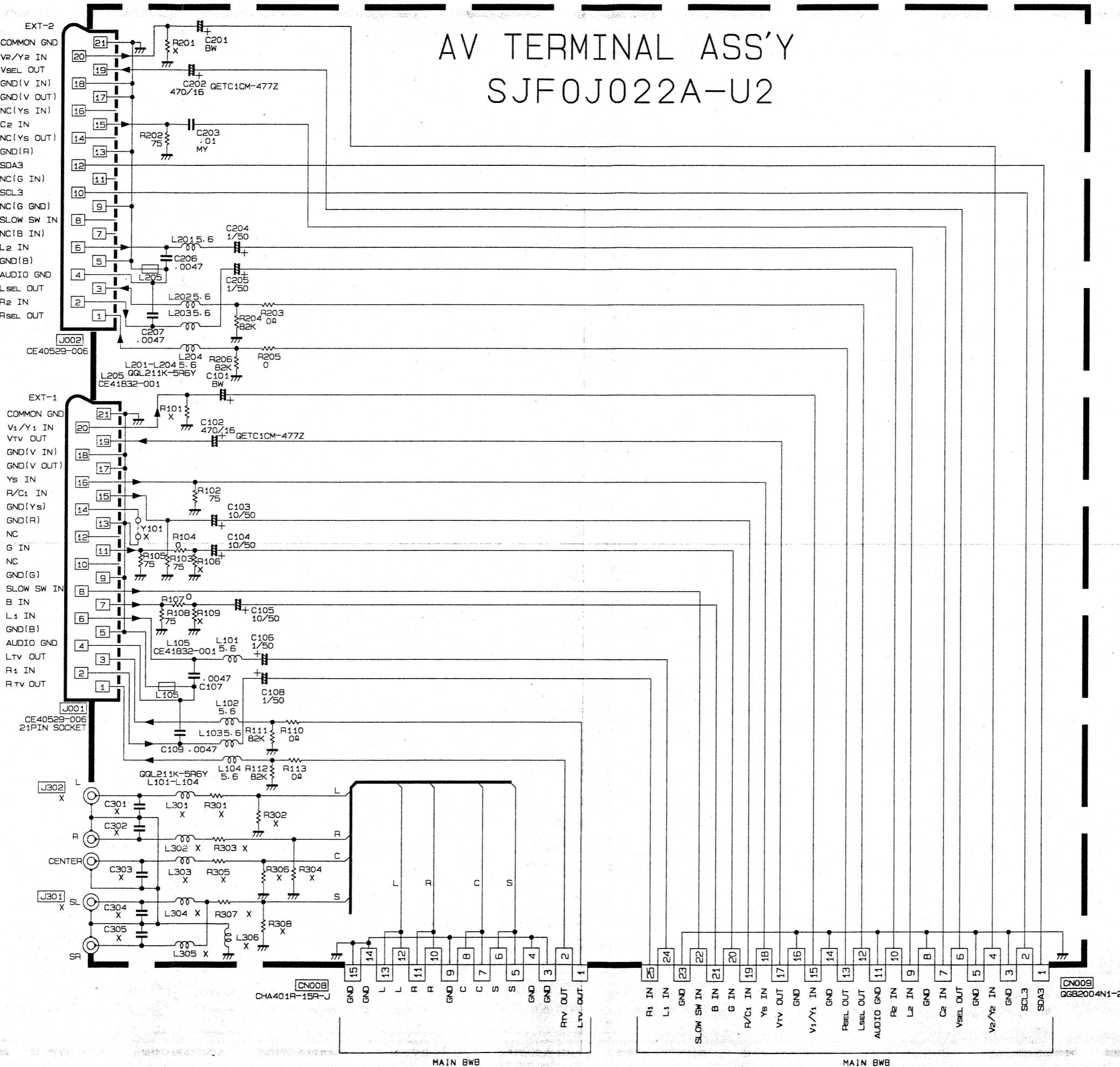
CRT SOCKET PWB ASS'Y
SJF-3022A-U2

NOTE

X : OPTION (NON MOUNTED)	*1 : 2SC1815/YG/-T
# : LOW B GND	*2 : 2SA1015/YG/-T
# : HIGH B GND	*3 : MA141WK-X
(H)	*4 : CE41492-001Z
BW : BUS WIRE	

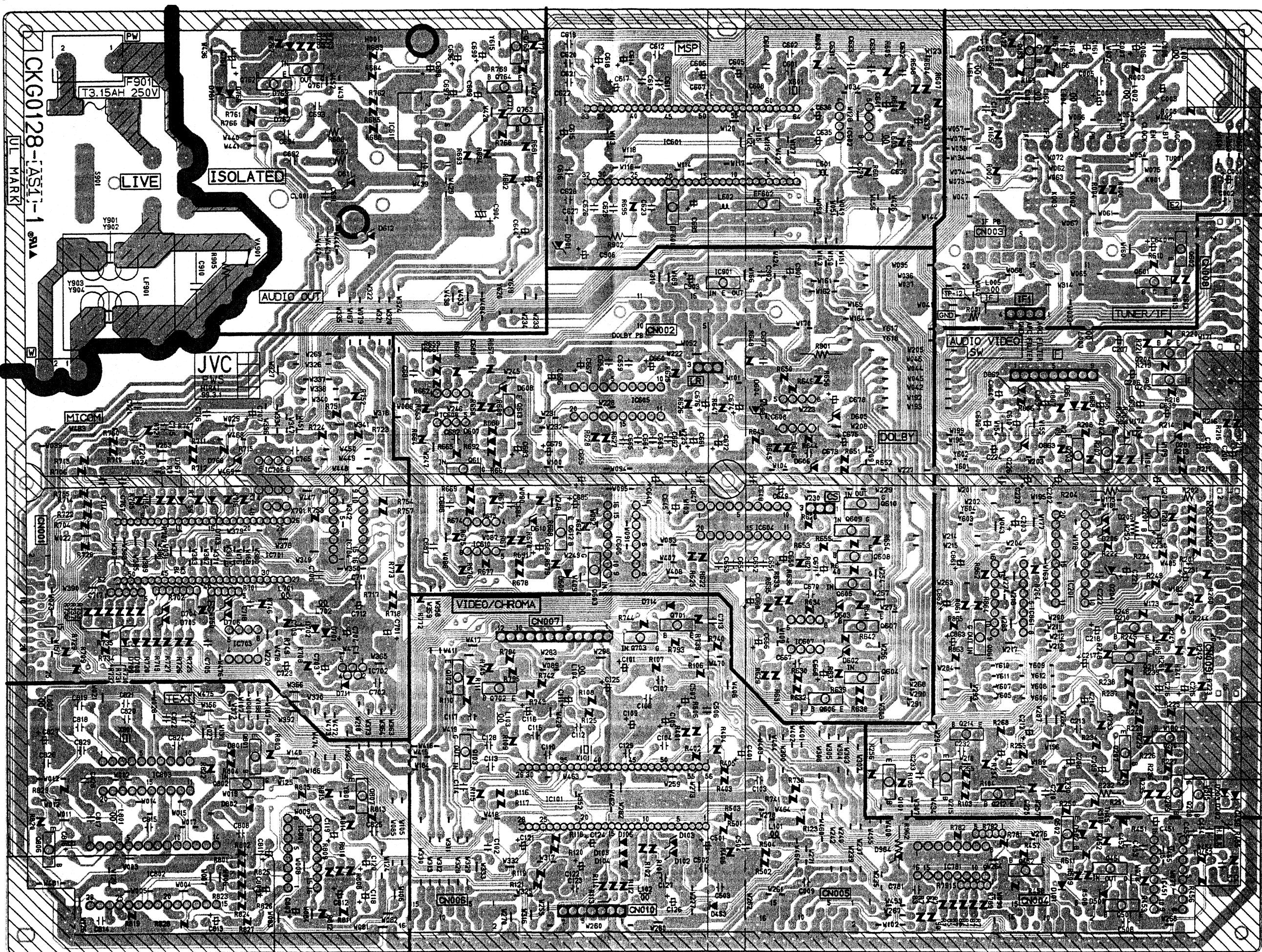
AV-28WT4EK
 AV-28WT4EKS
 AV-28WT4EN
 AV-28WT4ENS

AV TERMINAL PWB CIRCUIT DIAGRAM



PATTERN DIAGRAMS MAIN PWB PATTERN

FRONT

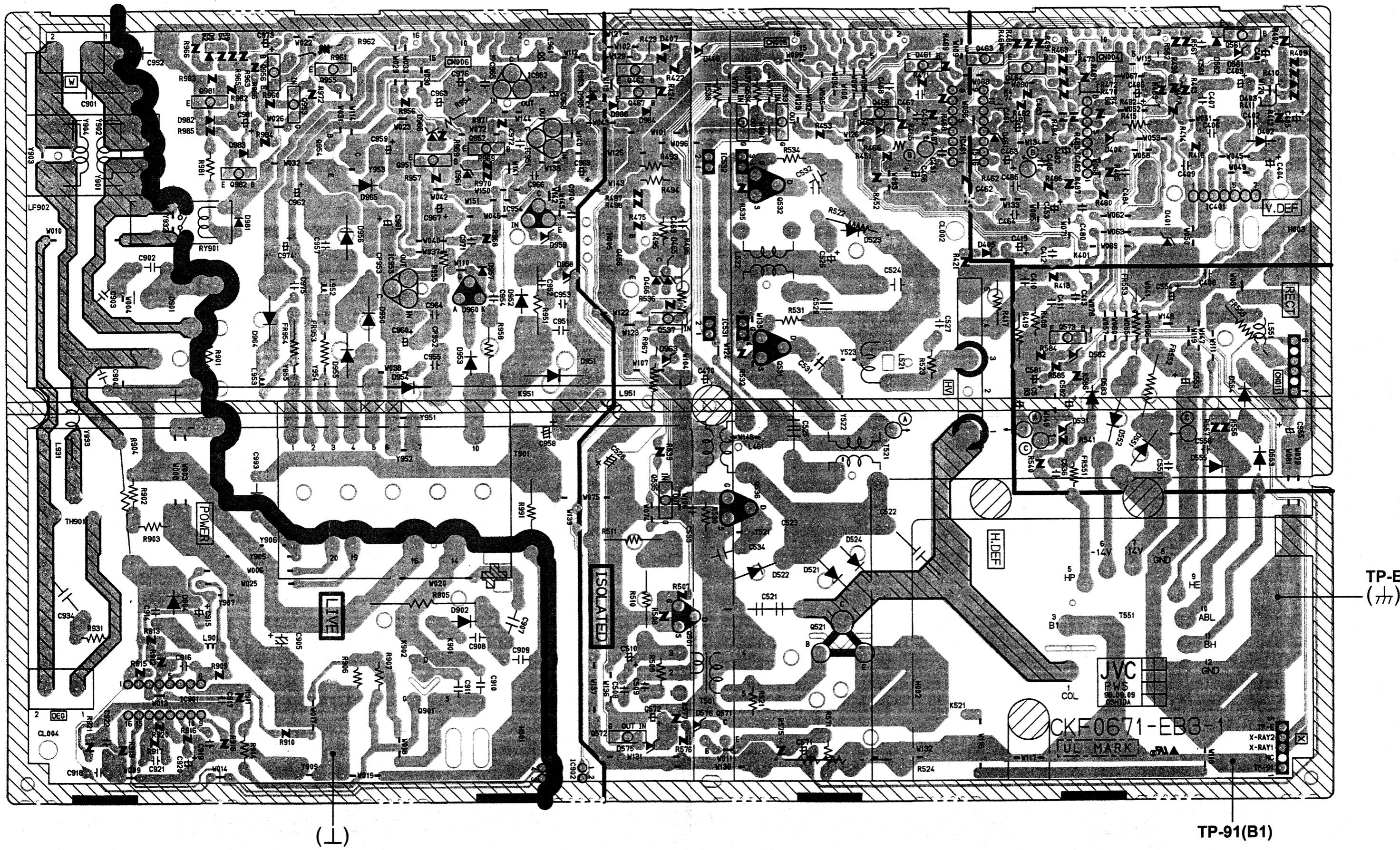


AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

POWER/DEF PWB PATTERN

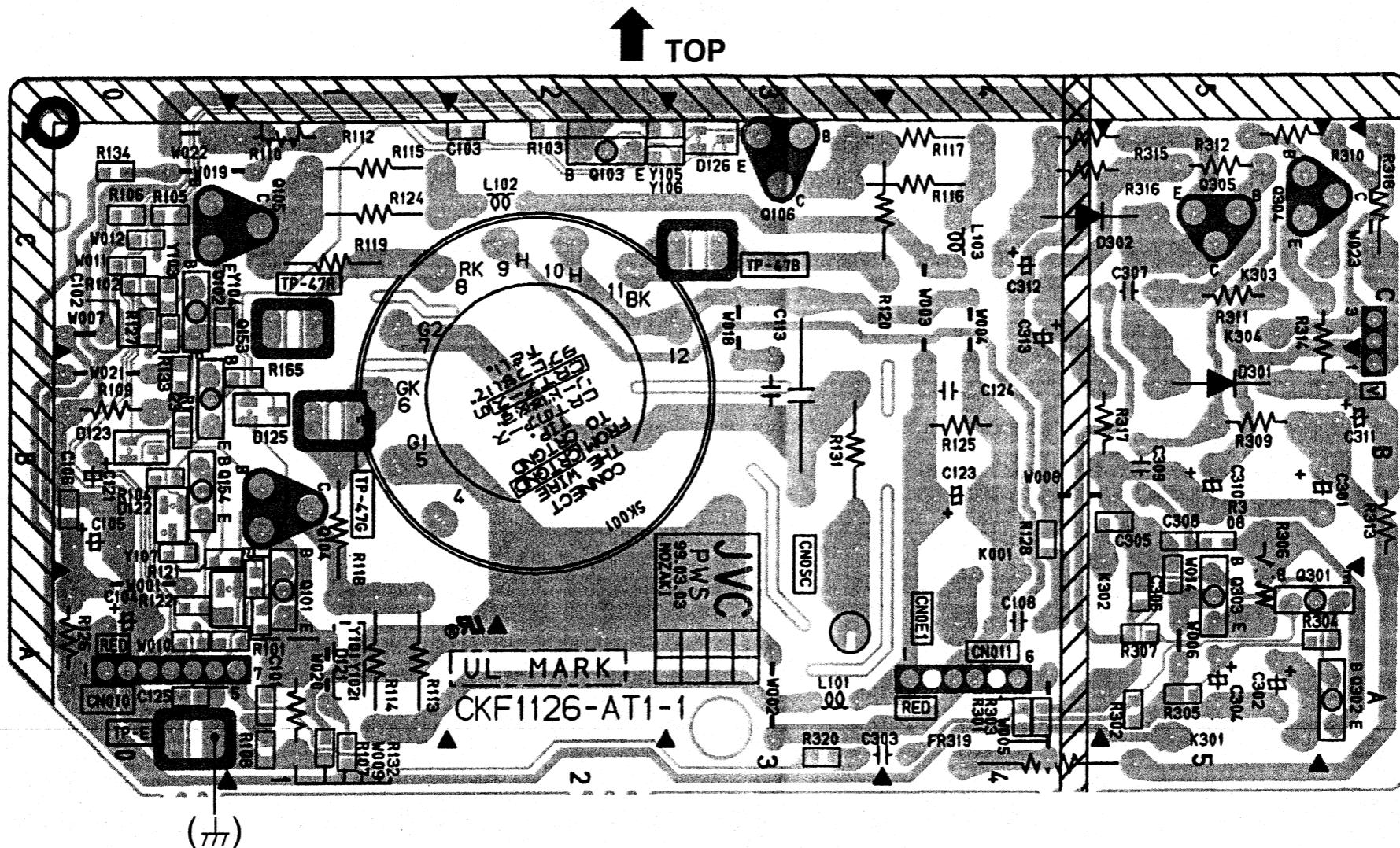
FRONT



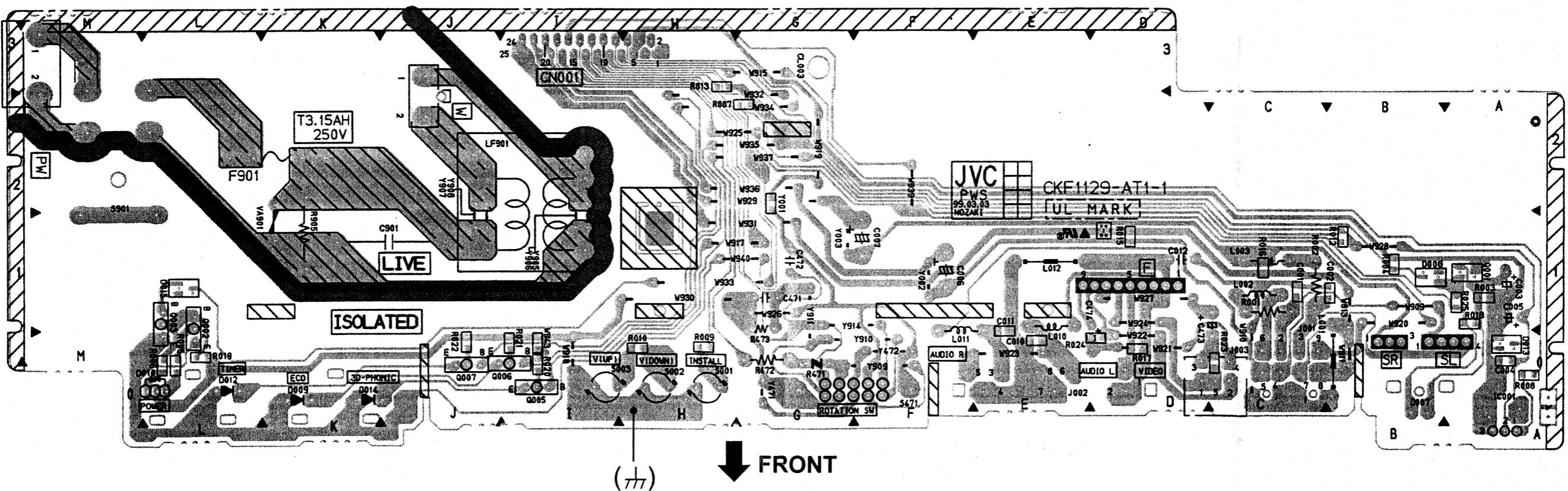
CRT SOCKET PWB PATTERN

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

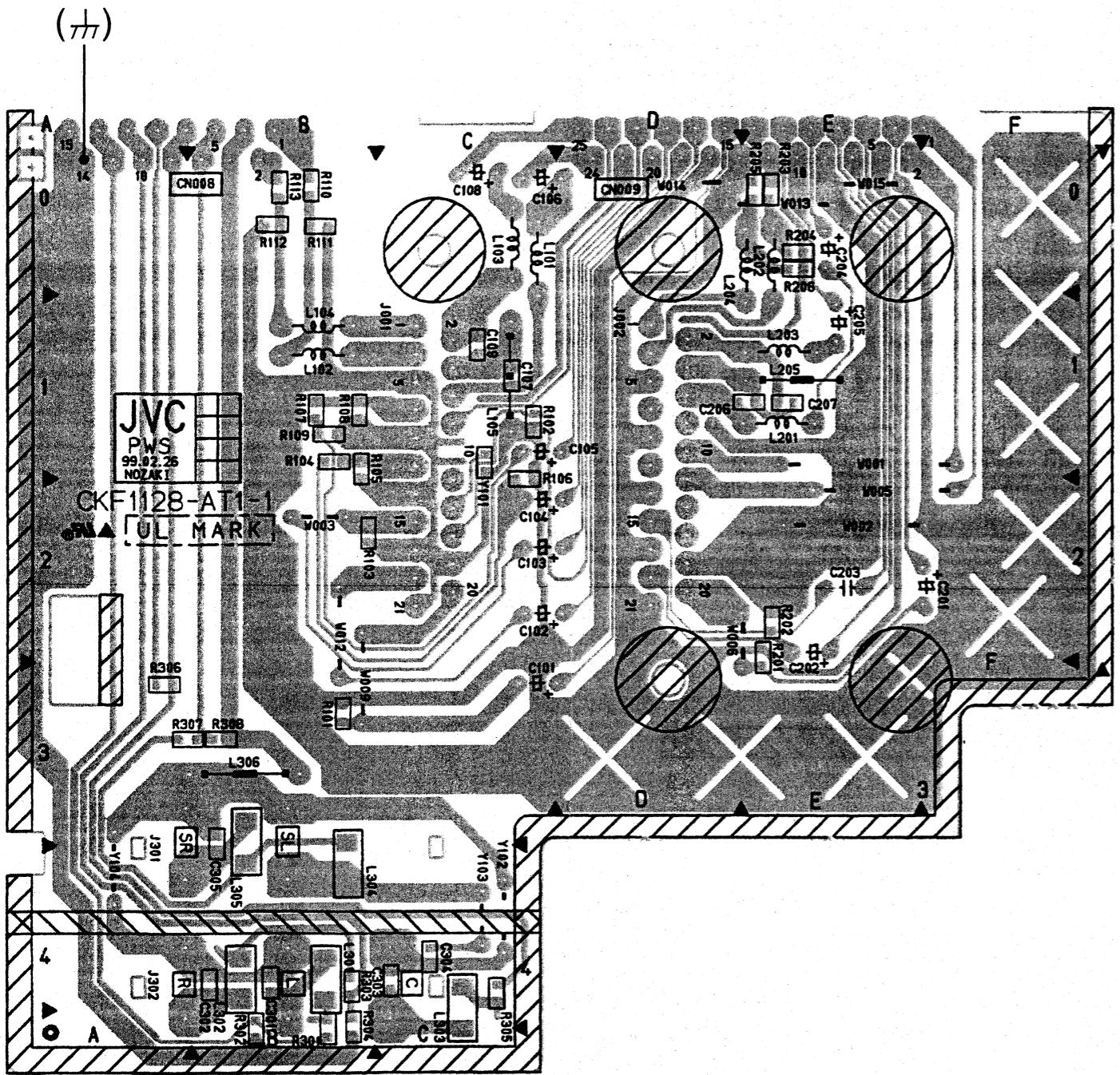
AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS



FRONT CONTROL PWB PATTERN



AV TERMINAL PWB PATTERN



TOP

No.51547

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

AV-28WT4EK
AV-28WT4EKS
AV-28WT4EN
AV-28WT4ENS

IF MODULE PWB PATTERN

